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AUTHOR	Stahl, Robert J.; And Others
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ABSTRACT

This publication contains a status study of psychology in secondary schools in Illinois. One of the major objectives of the study was to examine the status of the psychology course from the perspectives of three major groups of certified teachers--social studies teachers, guidance counselors, and a group of teachers representing all the other miscellaneous areas of certification--to determine if their certification area influences their approach to the course. The study examines teacher characteristics, characteristics of the students enrolled in the courses, as well as course objectives, content, and methods. Where relevant, findings from this study are compared to those from similar surveys conducted in Florida and Mississippi. To gather data questionnaires were sent to teachers and students in the state. Five hundred and fifty four of the 864 schools surveyed (64.1%) returned completed questionnaires. Psychology is taught in 59.7% of the schools in Illinois by 149 social studies teachers, 65 guidance counselors, and 114 teachers in the "Other" category. Social studies teachers received significantly fewer hours of college level psychology course training than their counterparts. None of the three groups of teachers came closer to meeting the expectations or needs of the students than the others. Also, the three groups of teachers emphasized the same content and topics and used identical teaching methods. (Author/RM)

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A
COMPARISON
OF HIGH SCHOOL PSYCHOLOGY COURSES
TAUGHT BY
SOCIAL STUDIES, GUIDANCE COUNSELORS, AND OTHER
AREA-CERTIFIED TEACHERS

Robert J. Stahl
Department of Secondary Education
Arizona State University
Tempe, AZ 85281
(602-965-7101)

With the assistance of

Pamela Hronek
Department of Secondary Education
Arizona State University
Tempe, AZ 85281
(602-965-7101)

and

James Matiya
Psychology Teacher
Carl Sandburg H. S.
Orland Park, Illinois

Materials are part of a presentation to the National Council for the Social Studies Special Interest Group: Psychology annual meeting, New Orleans, November 27, 1980.

ABSTRACT

Data from 331 psychology teachers in Illinois during 1977-78 were compared according to three broad areas of certification: social studies, guidance counselors, and all other areas of certification. Data as to characteristics of teachers, schools, courses, and students were compared as were course objectives, content, and instructional methods used by these teachers. Where possible, teacher data were contrasted with responses from 1,137 students who were enrolled in these courses. Also where possible, Illinois teacher and student data were compared with information obtained from Florida and Mississippi psychology teachers and students.

(90 words)

Dr. Robert J. Stahl

COMPARISION
OF HIGH SCHOOL PSYCHOLOGY COURSES
TAUGHT BY
SOCIAL STUDIES, GUIDANCE COUNSELORS, AND OTHER
AREA-CERTIFIED TEACHERS

When the smoke cleared from the social studies/science "Curriculum Revolution" of the 1960's and early 70's, individuals involved with social studies on the national level at last seemed to take notice of the emergence of a "non-social studies discipline", Psychology, as the fastest growing social studies course in our nation's high schools (Gross, 1977; Jarolimek, 1977; Stahl and Casteel, 1973). Already in 1971-72, over 600,000 students were enrolled in separate courses in psychology in nearly 7,000 schools with most schools offering the course as a social studies elective (Osterndorf, 1975). Yet, with few exceptions (Engle, 1955; Zunino, 1974; Stahl, 1978; Stahl and Casteel, 1974), the rapid growth and development of the high school level psychology course had been virtually ignored by social studies professional organizations, journals, and leaders.[3,4]

This growth has not gone unnoticed by others (Engle, 1967; Noland, 1967; Kasschau and Wertheimer, 1974; Stahl and Casteel, 1973; Stahl, 1974). Data testifying to rapid increases in course enrollments, number of schools offering the course, and number of teachers teaching the course are abundant (Kasschau and Wertheimer, 1974; Engle, 1967; Osterndorf, 1975). These data bases and recent state status surveys reveal that psychology has not only increased in popularity, it has been the fastest growing elective course offering in the high school social studies program over the past two decades.

State and national status surveys conducted in various states since 1932 have consistently revealed that a high percentage of teachers of these psychology courses were/are certified in the broad area of the social studies (Noland, 1966 ; Snellgrove, 1973; Matiya and Gill, 1977; APA, 1976; Fisher, 1974; Stahl, 1974, 1978). After an extensive longitudinal study, Stahl (1976) reported that better than three-fourths of the psychology teachers in Florida from 1970-1971 through 1974-1975 were certified in the social studies.

While data are available about the overall growth of psychology within the social studies curriculum, there has yet to be reported any details on where these social studies certified psychology teachers teach their courses, what their classes are like, what the objectives for their courses are, what content they include in these courses, and what methods they use to teach psychology to their students. Nor do we know whether psychology courses taught by social studies teachers are similar to or different from those taught by teachers certified in other subject matter disciplines. For instance, do social studies-certified psychology teachers teach a different course than those who hold Guidance-Counselor certificates? Even more interesting, do social studies teachers come closer to meeting the needs of high school students who are actually enrolled in these precollege psychology courses?

While much may be speculated about answers to these and similar questions, previous investigations relevant to assumptions about differences between "Humanistic" and "Behavioristic" psychology teachers (Stahl, 1977a, 1978) and between urban-suburban-rural psychology teachers (Stahl, Matiya, and Hunt, 1980) produced conclusions contrary to conventional wisdom.

After a brief review of the literature, this article will report the findings of a status study of psychology in one Midwestern state. The article represents the first study comparing psychology courses taught by social studies certified teachers and teachers who held certificatation in other subject matter areas. Where relevant, findings from this study will be compared to those from similar surveys conducted in Florida and Mississippi. Finally, the article includes a comparison between responses made by 331 Illinois psychology teachers and 1,137 high school students who were actually enrolled in courses taught by these same teachers.

A SUMMARY LITERATURE REVIEW

Psychology has been included in the secondary school curriculum since the 1830's. By 1900, it was designated as a separate course with 12,368 students enrolled. By 1935, its growth had become so significant that the American Psychological Association (APA) organized a separate committee to study its progress.

The 1948-49 Biennial Survey of Education reported that enrollment had increased to nearly fifty thousand students (46,547 students). In the twenty years between 1932 and 1952, psychology courses in the high schools grew significantly faster than either sociology or economics courses.

The course gained in popularity and enrollment through the fifties and sixties. Records on student enrollment in 1961 indicated that over two hundred percent more students were taking the course than had taken it twelve years before. A sharp rise in schools offering the course and the increase in the number of states teaching psychology further attest to this growth. By 1972-73, 6,870 U. S. schools offered specific courses in psychology which enrolled 611,468 students. This enrollment figure represented 3.3 percent of all students enrolled in school during the 1972-73 school year and 8.8 percent of the enrollment in schools which offered these courses. Overall, the total student enrollment in psychology courses increased a phenomenal 323% from 1961 to 1973 (Osterndorf, 1975).

Studies of secondary school psychology courses during the past two decades have tended to substantiate each other (Engle, 1967; Noland, 1966; Kasschau and Wertheimer, 1974). The list below briefly summarizes many of the more important characteristics relative to the past and present status of psychology within the secondary school curriculum:

1. Student enrollment and number of schools offering the course are rapidly increasing.
2. Students and teachers see the course as being personally valuable for students.
3. Courses are very popular among students as reported by their teachers.
4. Courses are offered in all fifty states.
5. Courses are most often one semester in length with year long courses a distance second.

6. Courses are offered as an elective more often than as a required subject.
7. Psychology is not required in any state for graduation, but a few isolated schools require it for graduation.
8. Courses are more likely to be offered in schools with over 500 students enrolled.
9. Courses are primarily opened to seniors-juniors combined classes and then to classes open only to seniors.
10. Females are much more likely to enroll in the course than males.
11. Whites are much more likely to enroll in the course than blacks, regardless of the white/black ratio of the school's enrollment.
12. The course is offered in schools across a wide variety of urban-suburban and rural settings.
13. Personal or self adjustment and self understanding are two of the most often stated objectives of the course.
14. Teachers tend to include in these courses the content and topics they believe should be included in psychology courses offered on this level.
15. Courses are usually assigned social studies credit.
16. Teachers are predominantly certified in social studies.
17. Teachers have little difficulty in identifying their approaches to the course with the labels--"behavioristic or humanistic."
18. Teachers develop and use a great deal of materials such as popular magazines to supplement their courses.

19. Until 1973, the T. L. Engle and Louis Snellgrove textbook, Psychology: Its principles and applications (various editions) was by far the most popular text.
20. More schools would offer the course if properly trained teachers and finances were available.

METHOD

In the Spring, 1978, a 4-page questionnaire accompanied by introductory letter and a self-addressed, stamped, return envelope was mailed to public and private secondary school principals in Illinois. The letter requested the principals to forward the questionnaire to the individual in their schools responsible for teaching psychology. A second mailing took place within a month of the first one. Eventually, 554 of the 864 schools surveyed (64.1%) returned completed questionnaires.

In addition to these teacher data, a number of schools were randomly selected for purposes of having the students enrolled in these psychology courses to complete a questionnaire directly related to them. By mid-Spring, 1,137 students in over two dozen schools returned completed forms via their teachers. As appropriate, the results of their responses will be incorporated within this paper as well.

RESULTS

INTRODUCTION TO THE RETURNS

The data analysis revealed that psychology as a separate course of study for credit was taught in 331 of the 554 Illinois secondary schools responding to the questionnaire (59.7%). The primary focus of this study was to go beyond the mere description of the general status of psychology on the pre-college level. This focus included the comparative investigation of psychology courses taught by teachers with different subject matter backgrounds and college course training. In particular, the possibility that the certification areas of these teachers would translate into different approaches to the course existed. This possibility was especially intriguing since no previous detailed data have been reported on the status of social studies teachers relative to this content area on this level of instruction.

One questionnaire item asked teachers to indicate what certification area they were currently using within the context of their present teaching position. Seven areas were listed with the eighth, or "Other" category left open for certification areas not listed. Of the 331 respondents, 149 (45.0%) indicated their teacher certification area at that time was in the "Social Studies"; 67 (20.2%) indicated "Psychology", 65 (19.6%) indicated "Guidance and Counseling", 8 (2.4%) indicated "Administration", 5 (1.5%) "Science", and 4 (1.2%) "Home Economics". The 29 individuals marking the "Other" certification area reported they held certificates in such diverse content areas as Religion, English, Physical Education, Health, and Business.

In order to investigate how one's certification area may influence the approach one takes to a course, the researchers sought to examine the status of the pre-college psychology course from the perspective of three major groups of certified teachers: the 149 teachers certified in the Social Studies, the 65 certified Guidance Courselors, and the 114 teachers representing all the other miscellaneous areas of certification. The remainder of this paper will stress the responses of these three groups of teachers from both descriptive and comparative perspectives.

DESCRIPTION OF SCHOOLS OFFERING PSYCHOLOGY COURSES

Information relative to the nature of the schools where these teachers taught was obtained. These data were concerned with the public-private status of the schools, the school population, size, and the geographical location and background setting of the school. The results collected relative to these school characteristics are reported below.

School classification

The responses of these three groups indicated that over 80 percent of the teachers in each group taught psychology in public secondary schools with most of the others in each group teaching in Catholic parochial schools. Of those responding, 123 (82.6%) of the Social Studies, 54 (83.1%) of the Guidance Counselors, and 94 (82.5%) of the "Other" category teachers taught psychology in public school settings. Meanwhile, 24 Social Studies teachers (16.1%), 7 Guidance Counselors (10.8%), and 12 Other category teachers (10.5%) taught their separate courses in Catholic parochial schools. The few other teachers in each of the three groups taught in private religious or non-religious school settings.[5]

School enrollment characteristics

When the responses of these teachers regarding the enrollment of the schools where they taught were examined, an interesting pattern was revealed. Of the 149 Social Studies teachers, 51 (34.4%) taught in schools with enrollments of less than 500, 29 (19.6%) in schools with enrollments between 500 and 1,000, (11.5%) in schools with enrollment between 1000 and 1,500, and 51 (34.4%) with enrollments exceeding 1,500 students. Of the 65 Guidance Counselors, 40 (61.5%) taught in schools with less than 500 students each, 18 (27.7%) in schools with enrollments between 500 and 1,000, and 7 (10.8%) in schools with enrollments over 1,000 students. Of the 114 teachers certified in "Other" areas, 47 (41.2%) taught in small enrollment schools of less than 500, 24 (21.1%) in schools with enrollments between 500 and 1,000, 12 (10.5%) in schools with enrollments between 1,000 and 1,500 students, and 31 (27.2%) taught in schools exceeding 1,500 enrolled students.

These data clearly show that as the size of the school enrollment increases, the psychology teacher was less likely to be certified in Guidance and Counseling and more likely to be certified in either the Social Studies or some other area (primarily "Psychology"). This pattern suggests that one of the duties of Guidance Counselors in small schools is to teach the psychology course with this course being turned over to full time teachers as the school increases in enrollment. Of the 118 schools with enrollments exceeding 1,000 students, only 7 offered courses taught by Guidance Counselors while 68 schools offered similar courses taught by Social Studies certified teachers.

Geographic settings of the school

The respondents were asked to identify the rural-suburban-urban setting of their particular school location and student population. While the largest number of teachers in each of these settings held Social Studies certificates, it was interesting to discover that far more rural schools (165 of 328, or 50.8%) offered separate courses in psychology for credit than did either suburban (89 or 27.4%) or urban (65 or 20.0%) schools. Sixty-one (41.2%) of the Social Studies certified psychology teachers taught in rural schools while 46 (31.1%) and 37 (25.0%) taught in suburban and urban school settings. Of the Guidance Counselors, 48 or 75.0% taught their psychology courses in rural schools. The pattern for the 113 teachers certified in "Other" areas resembled that revealed in the Social Studies teacher responses.

These data lend support to the distribution revealed above in the school enrollment figures. With rural schools traditionally having smaller enrollments, the task of teaching the separate course in psychology appears to be assigned, whenever possible, to the Guidance Counselors. As school enrollment increases, as in urban and suburban settings, the course increasingly is assigned to teachers certified in the Social Studies or some "Other" area of subject matter training (Stahl, Matiya, & Hunt, 1980).

In review, the above information indicates that regardless of school type, size, or location, the majority of psychology course teachers held Social Studies certificates. Only in small schools in rural settings did Guidance Counselors challenge this dominance. Finally, the distribution of psychology teachers holding "Other" areas of certification tended to parallel that of the Social Studies teacher responses.

COURSE DESCRIPTIONS

Elective or required status of the course

When asked whether the specific course in psychology was offered as an elective or required course in their schools, 144 of the Social Studies teachers (96.6%), 62 of the Guidance Counselors, (95.4%) and 112 of the

"Other" certified teachers (99.1%) marked the 'elective' response category. Of the 324 teachers responding to this item across all three categories, only 6 reported that psychology course was a required one at their particular school. In 4 of these 6 schools, the psychology courses were taught by Social Studies certified teachers.

Number of sections taught

In response to the item concerning the number of class sections of psychology they taught each day, the data from the Social Studies teachers revealed that 52 teachers (35.4%) taught one section, 37 (25.2%) taught two sections, 29 (19.7%) taught three sections, 20 (13.6%) taught four sections, and 9 (6.2%) taught five or six sections each day. Among the Guidance Counselors, 44 (68.8%) taught only one section each day while 13 (20.3%) taught two sections, 5 (7.8%) taught three sections, 2 (3.1%) taught four sections, and none taught five or more sections of the course. Of the teachers certified in "Other" areas 46 (41.4%) taught one section, 22 (19.8%) taught two sections, 21 (18.9%) taught three sections, 10 (9.0%) taught four sections, and 12 (10.8%) taught five or six sections on a given day.

Of the 322 psychology teachers who responded to this item, 142 or 44.1% taught only one section of the course per day. Collectively, these teachers taught a total of 678 sections among themselves with 340 or 49.8% of these being taught by Social Studies certified teachers. As suggested by these overall data, if a school offered but one section of psychology, it was almost equally likely the teacher would come from any one of these three groups of certified teachers. However, should two or more sections be offered, the chances that the teacher held a

Guidance Counselor certificate greatly diminished in favor of teachers in the Social Studies or in some other area of subject matter training.

Additional information concerning the number of sections taught support the above explanation. The Guidance Counselors averaged only 1.45 sections of psychology each day (s.d. = .78) in contrast with the 2.31 sections (s.d. = 1.29) and 2.30 sections (s.d. = 1.42) averaged respectively by the Social Studies and "Other" certified teachers. This distribution of mean differences among the sections taught by these groups was found to be a statistically significant one using ANOVA (F = 11.89, $p < .001$; See Table 1).

Number of students taught

Not only do Social Studies certified psychology teachers teach more sections of this course per day, but they also come into contact with more students per year in these courses. During the 1977-78 school year, the Social Studies teachers faced an average of 111.4 students each (s.d. = 103.0). This student enrollment figure is to be contrasted with 54.3 students averaged by the Guidance Counselors (s.d. = 54.9) and the 110.1 students averaged by the "Other" teachers (s.d. = 120.7). Collectively, the 325 teachers responding to this item reported teaching a total of 32,347 students in their respective courses during the 1977-78 school year. Of this total, 16,376 or 50.6 percent were taught psychology by teachers certified in the broad area of the Social Studies.

The total enrollment figures of 32,347 for 1977-78 should be examined in light of the 1976-77 enrollment total of 30,985 students as reported by these same teachers. The previous year found the average Social Studies teachers teaching 117.9 students with the Guidance

TABLE 1

ANOVA Data Related to Number of Sections of Precollege Psychology These Three Groups of Teachers Taught Each Day

Source	df	SS	MS	F-Ratio
Between Groups	2	37.33	18.67	11.89*
Within Groups	319	500.65	1.57	
TOTAL	321	537.98		

* $p < .001$

Counselors and "Other" area teachers averaging 57.6 and 108.6 students, respectively. The 1977-78 total represents an increase of 1,362 students or 4.4 percent in enrollment for the psychology course over the previous year. According to the results, 23 teachers of psychology during the 1977-78 period had not taught the course in their schools the previous year. Of these 23 new teachers of psychology, 12 were certified in the Social Studies.

Length of the course

Approximately three-fourths of the courses taught by teachers in each of these three certification-area groups were one semester in length (i.e., 76.5%, 76.9%, and 71.1%, respectively, for the Social Studies, Guidance Counseling, and "Other" certification area teachers). The second most popular length for such courses was the full year course with an approximate 20 percent frequency for each of these three groups. Courses of various lengths including six and nine week units were taught by about 5 percent of the teachers in each of these three groups. In general, the distribution among these teachers in respect to the length of their psychology courses was nearly identical across all three categories.

POPULARITY OF THE PSYCHOLOGY COURSES

The teachers were asked to reveal whether they thought the psychology course was considered a "popular" one for students to take in their particular schools. Their responses showed 93.9% of the Social Studies and 89.1% of the "Other" certified teachers considered the course to be popular among students in their schools. Somewhat surprisingly, only

79.9% of the responding Guidance Counselors reported the course as being popular. A Chi-square analysis revealed the margin of difference among these three groups relative to course popularity was a significant one ($X^2 = 10.13$, $p = .04$). For whatever reason, students appear to like psychology more when it is taught by Social Studies and "Other" certified teachers than they do courses taught by Guidance Counselors.

DESCRIPTIVE DATA CONCERNING STUDENTS ENROLLED IN PSYCHOLOGY COURSES: TEACHER SURVEY RESULTS

Besides information in the school setting and course characteristics, descriptive data relative to the student make-up of the psychology classes themselves were obtained.

Sex of the students enrolled

When data regarding the sexual make-up of students enrolled in these courses were examined, it was revealed that 239 of the 322 teachers responding to this item taught classes with predominant female enrollment (74.2%) while 36 teachers (11.2%) taught predominantly male classes, and 47 teachers (14.6%) taught equally balanced classes of males and females. This heavily female enrollment pattern parallels similar data from previous studies of schools in several different states (Stahl, 1974, 1976, 1977b).

From the perspective of certification, 103 Social Studies teachers (70.5%) taught female dominant and 21 (14.4%) taught male dominant classes while 22 teachers (15.1%) had classes of about equal sex distribution. Guidance Counselors tended to teach either predominantly female classes (42 or 66.7%) or balanced classes (14 or 22.2%) while a large majority of the "Other" teachers taught classes enrolling mostly females (94 or 83.2%).

Racial mixture within psychology courses

Better than 4/5 of the courses taught by these three groups of teachers enrolled white-to-black students at a ratio of 95% white/5% black regardless of the rural-urban-suburban location of the school or of the white-to-black ratio of the overall student population of the school. Thus, 126 Social Studies teachers (86.3%), 57 Guidance Counselors (87.7%), and 104 "Other" teachers (92.9%) taught classes enrolling a white-to-black student ratio which approximated 95% white/5% black. Only 3 Social Studies teachers (2.1%), 5 Guidance Counselors (7.7%), and 3 "Other" teachers (2.7%) taught in courses with an enrollment of more than 50% black-to-white students.

These data reveal that better than 90 percent of the teachers in each category taught classes which enrolled whites-to-blacks at a ratio of better than 80% white, to 20% black. This enrollment pattern of extremely heavy white student populations is identical to that found in Florida and Mississippi schools (Stahl, 1976, 1977b). For whatever reason, it is clear that even though the course is an elective one, black students in Illinois, like in Florida and Mississippi, do not enroll in psychology regardless of what proportion of blacks make up the overall school enrollment.

Grade level of students in psychology classes

The teachers were asked to indicate what grade levels of students were eligible to enroll in their particular psychology courses. An analysis of the Social Studies teacher responses revealed 93 (63.3%) taught courses enrolling 11-12th grade students, 39 (26/5%) taught courses for 12th graders only, and 10 (6.8%) taught courses which enrolled 10-12th graders. An almost identical pattern was found for the "Other" teachers with figures of 73 (64.6%), 30 (26.5%), and 9 (8.0%) for these same three grade categories. At the same time, only 33 of the Guidance Counselors (50.8%) taught courses for 11-12th graders while 22 (33.8%) taught courses for 12th graders only, and 9 (13.8%) taught courses for 10-12th graders. Other grade levels and grade combinations made up the remaining categories.

In looking at all these teachers collectively, 199 or 61.2% taught courses enrolling 11-12th graders, while courses for 12th graders only was a distant second (91 or 28.0%). Twenty-eight teachers (8.6%) taught courses with 10-12th graders enrolled. Of special interest is the pattern of enrollment of psychology courses which was revealed in a longitudinal study of Florida from 1970-71 to 1974-75 (Stahl, 1976). Its pattern clearly showed that gradually schools maintained or increased their levels of student enrollments by opening up the course to other grade level students. Schools often initiated the course exclusively for 12th graders, then opened it to 11th-12th graders, and then gradually to 10th through 12th graders. Hence, this opening of course enrollment to lower grade level students has often been mis-read as though a greater number of students (usually 12th graders) are enrolling in the course. Consequently, Psychology course enrollments are temporarily showing increases in some schools/states only because lower grade level students are increasingly being allowed to take the course. Combining this enrollment tendency with the prevailing "back-to-basics" movement, psychology may well begin to loose enrollment over the next few years as budgets tighten and as elective courses give way to more basic skills oriented programs and units.

DESCRIPTIVE DATA CONCERNING STUDENTS ENROLLED IN PSYCHOLOGY COURSES: STUDENT SURVEY RESULTS

These teacher data relative to some of the characteristics of students enrolled in their courses can be examined in light of the information collected from the 1,137 students who were surveyed. Being randomly selected, these student responses represent a cross-sampling of students and classes across Illinois. Included as part of the student questionnaire were five items designed to gather descriptive data relevant to the sex, race, age, and grade level of each respondent. Information was also collected as to the grade each student earned in the psychology course for the previous grading term.

Sex of students enrolled

Overall, nearly three-fourths of the teachers indicated their classes consisted of a majority of female students. Taken collectively, these teacher respondent data are consistent with numerous other studies reporting a preponderant female majority in high school level psychology classes (Kasschau and Werthiemer, 1974).

As expected from the teacher data, females did make up a clear majority of the 1,137 student population sampled in this survey. Of these students, 684 or 60.3% were female and 450 or 39.7% were males. These percentages run nearly parallel to the population data for sex of students in similar courses in both Florida and Mississippi (Stahl, 1976, 1977b).

Combined with other available data, a composite description of the 'typical' female and male psychology student can be developed. The typical female student was white, in the twelfth grade, and most likely 17 years of age. The typical male was a white 12th grader and equally likely to be 17 or 18 years of age. The chances are very good that both students received a better grade of "A" or "B" in psychology for the last grading term.

Race of students enrolled

When these data were analyzed according to the race of the students enrolled, the results were consistent with those reported by their teachers. Of the 328 urban/suburban/rural teachers, 308 had reported heavy white enrollments of 80 percent or higher in the separate psychology courses. This high proportion of white enrollment was supported by the student data. An overwhelming majority of the 1,137 students, 955 students or 84.5% were white. Black students, 142 or 12.6%, were the second most numerous racial group while only 33 or 2.9% made up a third category of "other" students.

Grade levels of students enrolled

According to the teacher survey results, of the 328 schools represented, 290 opened the psychology courses to just 12th graders or to 11th-12th graders combined. Far fewer schools, 38, even allowed 9th and/or 10th graders to enroll in these courses. The student results confirm these teachers reports of a larger senior majority in these classes.

When the student responses were examined, the findings revealed that two-thirds of the 1,137 students (753 or 66.9%) were seniors, with juniors (326 or 29.0%), sophomores (46 or 4.1%), and freshmen (1 or .1%) following in that order. As expected, 12th and 11th graders do make up the vast majority of students enrolled in these courses.

At all grade levels, the typical student was a white female. As one would expect, as the grade level rose, so the age level of the students increased with the ninth graders being 14 years of age, tenth graders primarily 15 and 16 years of age, eleventh graders about evenly divided between 16 and 17, and twelfth graders nearly equally divided between 17 and 18 years of age. In summary, 62.9% of these students were 17 or 18 year old seniors.

Age level of students enrolled

In one study Stahl (1976) reported that 45.8% of the 1,215 Florida psychology students in 1974-75 were 17 years of age, 36.1% were 18, 16.9% were 16, with the rest being 14, 15, or 19 years of age. Data from the survey of Illinois students found that 505 students were 17 years of age (44.5%), 383 were 18 years old (33.7%), 193 were 16 years of age (17.0%), 36 or 3.2% were 19, 16, or 1.4% were 15, and 2 or .2% were 14 years of age. Collectively, 887, or 78.2% of these 1,137 students were 17 or 18 years of age. These overall percentages of students per each age level are somewhat equivalent for students in Florida, Mississippi, and Illinois (see Table 2).

Academic grades these students received

Each student was also asked to identify the grade s/he received in the psychology course for the previous grading term. Nearly a

TABLE 2

Descriptive Data on Psychology Students in Three States

Student Characteristic	1,215 Florida Students 1974-75	724 Mississippi Students 1975-76	754 Mississippi Students 1977-78	1137 Illinois Students 1977-78
Females	58.6	63.5	57.8	60.3
Males	41.4	36.5	40.2	39.7
Whites	88.1	78.8	90.8	84.5
Blacks	9.1	21.0	4.9	12.6
Other	2.8	.2	4.3	2.9
Freshman	.6	2.8	.1	.1
Sophomores	2.3	3.8	3.1	4.1
Juniors	31.1	21.5	27.6	29.0
Seniors	66.0	71.9	69.2	66.9
14 years old	.3	2.1	.1	.2
15 years old	.9	3.1	.9	1.3
16 years old	16.9	15.8	16.0	17.1
17 years old	45.8	49.3	46.2	44.6
18 years old	36.1	28.2	35.9	33.7
19 years old	.0	1.7	1.9	3.1
"A" Grade	26.3	33.6	25.3	26.7
"B" Grade	37.4	37.4	31.9	31.7
"C" Grade	23.4	17.7	26.5	25.3
"D" Grade	8.7	8.0	11.7	10.8
"E/F" Grade	4.1	3.9	3.8	4.5
N.A.	.0	.0	.7	1.0

third of the grades received by these students were "B" grades (356 responses of 31.7%). "A's" were the second most received grades (299 responses or 26.6%) followed very closely by "C" grades (285 responses or 25.4%). "D" grades were received by 121 students (10.8%) while 50 students (4.5%) reported a grade of "F". Eleven students reported not receiving grades the previous grading term and fifteen failed to respond to this item.

Summary of student descriptive data

As a result of these data, a composite description of the 'typical' high school psychology student in Illinois can be developed. She is a white, 17 year old senior student enrolled in a school of over 500 students. If her class averaged 30 students, it would include approximately 15 white females, 10 white males, 3 black females, and two black males. The majority of her classmates are 17 or 18 year old seniors with about a third being juniors. Of the 30 students, about 10 received a "B", while approximately 8 received "A", 8 "C"'s, 3 "D"'s and 1 "F" for the last grading term. Our 'typical' student probably earned an "A" or "B" on her report card. With few minor exceptions, these student data are nearly identical to the composites of the 'typical' psychology student found in both Florida and Mississippi (Stahl, 1976, 1977b).

CHARACTERISTICS OF THE TEACHERS

Besides school and course descriptive data, an attempt was made to obtain information about the teachers themselves. Were teachers in each of these three certification groups different in terms of their sex, college training, or felt adequacy to teach the course? Were teachers in one of these three groups more "humanistic" or "behavioristic" in their approach to the course. The obtained data revealed some interesting patterns among these teachers.

Sex of psychology teachers

Although not specifically requested, the researchers assigned a sex code to each respondent according to the title and/or name cited on the questionnaire name and address section. By using titles (e.g., Ms., Mrs., Miss, Mr.) or first names, 308 of the 331 teachers were able to be identified as either being female or male. As a consequence of this procedure, it was possible to examine the female-male makeup of these three groups of teachers.

Overall the 308 sex-identified teachers, 214 were male (69.5%) with the remaining (94 or 30.5%) being female. The data revealed 77.6% of the "Other" certified teachers were males with the corresponding difference in each group being females (i.e., 22.4%, 34.5%, and 39.1%, respectively).

College psychology course preparation

Information was obtained concerning the number of undergraduate and graduate level psychology and educational psychology courses these teachers completed on the college/university level. In order of frequency, 112 teachers making up the "Other" category averaged 32.9 hours of psychology course background in college (s.d. = 17.41). The 63 Guidance Counselors averaged 32.6 college credit hours in psychology and/or educational psychology courses (s.d. = 15.87). The 144 Social Studies teachers responding to this time reported a much lower average of 24.8 hours (s.d. = 14.85). Using ONEWAY ANOVA, the difference between the first two groups means and that of the Social Studies teachers was found to be a significant one (F = 9.87, $\underline{p} < .001$, see Table 3).

At least one teacher in each of these three groups reported having over 90 hours of college level psychology coursework. Quite remarkably, one Social Studies and one "Other" category of teachers revealed having taken no specific course in psychology or educational psychology on the college level.

Felt adequacy towards the course

The teachers were asked to indicate whether they felt they were adequately prepared to teach psychology on the pre-college level. Of the 114 teachers in the "Other" certification group, 104 or 91.2% reported they felt adequately prepared followed closely by 59 of the 65 Guidance Counselors (90.8%). Meanwhile, only 127 of the 149 Social studies teachers (85.2%) indicated they were secure about their college preparation to teach the course. Since a majority of the 114 "Other" category teachers, 66 or 57.9%, were certified in the content area of Psychology and since the Social Studies teachers were the least likely of these three groups to have had extensive college level Psychology course preparation, the pattern above was not unexpected.

In general these data suggest very strongly that increased college level coursework in psychology relates rather directly to one's felt adequacy to teach 'psychology' to secondary school students. However, this is not to imply that either college course background training or felt adequacy translates directly into quality and effectiveness of teaching 'psychology' for the teachers involved.

Humanistic-Behavioristic approach of teachers

One item on the questionnaire asked teachers to indicate whether the approach they took to their psychology course was "Humanistic" or

TABLE 3

ANOVA Data Related to Number of College Credit Hours These Teachers had Received in Psychology and Educational Psychology Courses

Source	df	SS	MS	F-Ratio
Between Groups	2	5048.74	2524.37	9.87*
Within Groups	316	80809.02	255.72	
TOTAL	318	85857.76		

*$p < .001$

"Behavioristic" in nature. Neither term was defined for the respondents. Overall, 317 of the 331 teachers responded to this item with 47 or 14.8% of these marking both the humanistic and behavioristic options on the form. For purposes of analysis, this double response was converted into a third category and assigned the label, "Eclectic." The response to these three categories of approaches were then examined.

Of the three groups of teachers, a slightly higher percentage of Social Studies certified teachers were found to be 'behavioristic' (56 or 143 or 39.2%) than were either the "Other" group (42 or 37.8%) or the Guidance Counselors (18 or 28.6%). In contrast, 60.3 percent of the Guidance Counselors and 50.2% or the "Other" teachers reported being 'humanistic' in their approach compared to only 42.0 percent of the Social Studies teachers who followed a similar approach. A larger percentage of Social Studies teachers, 18.9%, reported being 'eclectic' in their approach than did the other two groups (i.e., 11.7% and 11.9% for these two groups). (See Table 4).

The Social Studies certified psychology teachers involved in this study were more likely to adopt a 'behavioristic' approach to the psychology course than were teachers from the other two groups. When the 'eclectic' category is dropped, the majority of the remaining 116 Social Studies teachers, 60 or 51.7%, were found to adhere to a "humanistic" approach.

The data pattern reflected in the 'behavioristic-humanistic' item responses is open to a variety of possible interpretations. From these data one might argue that a far greater percentage of Guidance Counselors were humanistic in their approach than were Social Studies or "Other"

TABLE 4

Frequencies and Percentages for These Three Groups of Teachers Relevant To the Humanistic-Behavioristic-Eclectic Approach They Took to Their Courses

Area of Certification	Humanistic		Behavioristic		Eclectic		TOTAL
	F	%	F	%	F	%	
Social Studies	56	39.2	60	42.0	27	18.9	143
Guidance Counselor	18	28.6	38	60.3	7	11.1	63
'Other'	42	37.8	56	50.5	13	11.7	111
TOTALS	116		154		47		317
Percentage of all Respondents	36.6%		48.6%		14.8%		

Chi-Square = 7.47 (df=4), $\underline{p}$ = .11

certified teachers. At the same time, it must be remembered that what is/was meant by the labels 'humanistic' and 'behavioristic' was completely up to the persons completing the questionnaire item. While it is often assumed that teachers who adhere to these two approaches are quite different teachers who teach very different psychology courses, previous research (Stahl, 1977a, 1978) has revealed that groups of teachers claiming these two labels taught identical courses. These results would suggest that an identification or association with either the humanistic or behavioristic labels does not necessarily represent an accurate description of what the teacher actually does in terms of teaching the psychology course.

COURSE OBJECTIVES, CONTENT, AND METHODS

Besides looking at the characteristics of the schools, the course offering, and the teachers themselves, data were also obtained concerning the objectives set for the course, the topics and content subject matter included in the course, and the method used by these teachers to teach psychology.

Course objectives

These teachers were asked to identify the objectives they set for their respective psychology courses. A list of 12 instructional objectives commonly cited for these courses was provided along with the request that the teachers check any and all of the objectives which reflected those they set for their own courses. If those provided were inappropriate, they could write in those course objectives they did set. As stated in the order of their appearance in the questionnaire, the 12 objectives are:

(a) To help students in their *vocational planning*.

(b) To help students develop an *appreciation for psychology* as a field of scientific knowledge and inquiry.

(c) To *prepare* students for *college psychology* courses.

(d) To *eliminate* many of the *misconceptions* students have about psychology and psychologists.

(e) To assist students in preparing for *future family life*.

(f) To assist students in developing a basic *philosophy of life*.

(g) To help students understand and deal with the *personal problems*.

(h) To assist students in *understanding the vocabulary* associated with psychology.

(i) To assist students in *adjusting to life* and solving life's problems.

(j) To help students better *understand* and accept *themselves* as individuals.

(k) To help students *apply psychological knowledge* to understand contemporary social problems and events.

(l) To help *cope with* problems associated with emerging *adolescence*.

The percentage of total responses for each group of teachers, the ranking assigned each objective, and the Chi-square value for each objective are given in Table 5.

As shown in Table 5, the teachers in each of these three groups agreed nearly exactly in the objectives they most emphasized in their respective courses. The greatest differences in rankings are for the *Cope with adolescence* objective (a difference of 4 ranks between the Social Studies

Table 5

A Summary of Frequencies, Percentages, Adjusted Chi-Square Values, and Ranks Assigned to Course Objectives by the Three Certification-Area Groups of Teachers and Their Students

Course Objectives	Social Studies F	%	R	Guidance Counselors F	%	R	Others F	%	R	Chi-Square	p	Students %	R
a) Understand themselves	135	90.6	1	57	87.7	3	94	82.5	1	3.86	.15	45.6	3
b) Understand personal problems	116	77.9	2	58	89.9	1.5	88	77.2	2	4.43	.11	55.8	1
c) Adjusting to life	114	76.5	3	58	89.9	1.5	84	73.7	3	6.21	.04	47.4	2
d) Appreciation for psychology	105	70.5	4	43	66.2	4	79	69.3	4.5	.40	.82	28.8	8
e) Understanding vocabulary	102	68.5	5	41	63.1	6	79	69.3	4.5	.81	.67	15.5	12
f) Cope with adolescence	94	63.1	6	38	58.5	8	63	55.3	11	1.67	.43	24.1	9
g) Prepare for college psychology	92	61.7	7	39	60.0	7	71	62.3	6	.09	.95	34.0	6
h) Future family life	89	59.7	8	37	56.9	9	66	57.9	10	.18	.92	40.5	4
i) Philosophy of life	88	59.1	9	42	64.6	5	70	61.4	7	.60	.74	31.9	7
j) Apply psychological knowledge	86	57.7	10	35	53.8	10	67	58.8	9	.43	.80	37.8	5
k) Eliminate misconceptions	85	57.0	11	29	44.6	11	68	59.6	8	4.06	.13	22.5	10
l) Vocational planning	29	19.5	12	6	9.2	12	16	14.0	12	3.91	.14	21.3	11

and 'Other' teachers). The only significant Chi-square value (6.21, p = .04) was found for the Adjusting to life objective. However, despite the significant differences among the percentage of teachers in these groups who set this particular objective for their course, this objective was still among the top three posited by all three groups. Interestingly, all three groups of teachers ranked the Vocational planning objective in 12th position.

When the ranking for these topics by the teachers were compared, the Spearman rank order correlation coefficients between the Social Studies and Guidance Counselor rankings was found to be .90, .84 between Social Studies and "other," and .88 between Guidance Counselors and "Other". All three coefficients were significant at the .01 level.

Table 5 also presents the rankings of these objectives by the 1,137 students who responded to this item as reasons for enrolling in the course. The comparison of teacher-student rankings revealed that the same three objectives most stressed by teachers were identical to the three most important reasons why their students took the course. The two objectives-reasons with the greatest disagreement in rankings were Understanding vocabulary and Future family life. Spearman rank-order correlation coefficients were computed between the student rankings and each of the three groups of teacher rankings. These coefficients were found to be .55 for the Social Studies, .61 for the Guidance Counselors, and .49 for the "Other" teachers.

Content included within these courses

One way to describe the subject matter content of a course is to obtain information concerning the specific topics and concepts covered by the teacher. The questionnaire listed 22 topics generally included in pre-college psychology courses, with the request the teachers identify those topics they had included or would include in their courses during the school year. The responses of these three groups of teachers were totaled and ranked. Table 6 presents the percentages, rankings, and Chi-square values for this item.

Unlike the nearly identical rankings for the course objective, the teachers in each of these three groups were somewhat dissimilar in the topics and content they most often included in their courses. For example, even though Personality theory was ranked first by both the Social Studies teachers and Guidance Counselors and second by the "Other" groups of teachers, the difference in the percentage of teachers in each group who taught this particular topic was found to be a significant one ($x^2 = 6.47$, $p = .04$). Yet, few real differences exist among these three groups in the content which they taught. Of the 22 topics, an average of 13.7 were taught by the Social Studies teachers, 13.4 by the Guidance Counselors, and 14.4 by the "Other" teachers.

When the ranks were contrasted via rank order correlation analysis, coefficients of .98 for the Social Studies-Guidance Counselor rankings, .96 for the Social Studies-"Other" rankings, and .94 for the Guidance Counselor-"Other" teacher rankings were computed. All of these were found to be in significant agreement with one another ($P < .001$). Taken collectively, these data would strongly suggest that teachers in these three groups tended to teach with nearly the same degree of emphasis the same topics and content in their respective psychology courses while focusing on nearly identical objectives which these teachers themselves set for this particular course.

Table 6

A Summary of Frequencies, Percentages, Adjusted Chi-Square Values, and Ranks Assigned to the Topics These Teachers Actually Included in Their Pre-College Psychology Courses

Topics	Social Studies F	Social Studies %	Social Studies R	Guidance Counselors F	Guidance Counselors %	Guidance Counselors R	All Others F	All Others %	All Others R	Chi-Square	p
a) Personality Theory	144	96.6	1	60	92.3	1	101	88.6	2	6.47	.04
b) Mental Illness	125	83.9	2.5	51	78.5	4	105	92.1	1	6.98	.03
c) Learning Theory	125	83.9	2.5	48	73.8	6	86	75.4	6.5	4.06	.13
d) Mental Health	123	82.6	4	50	76.9	5	95	83.3	5	1.27	.53
e) Emotions	121	81.2	5	58	89.2	2	96	84.2	4	2.17	.34
f) Intelligence	119	79.9	6	54	83.1	3	85	74.6	8	2.03	.36
g) Abnormal Behavior	116	77.9	7	47	72.3	7	98	86.0	3	5.25	.07
h) Motivation	113	75.8	8	46	70.8	8	86	75.4	6.5	.67	.72
i) Human Growth-Development	105	70.5	9	41	63.1	10.5	83	72.8	9	1.92	.38
j) The Adolescent	101	67.8	10	37	56.9	13.5	78	68.4	12	2.89	.24
k) Sensation and Perception	96	64.4	11	39	60.0	12	78	68.4	12	1.32	.52
l) Parapsychology, ESP	90	60.4	12	41	63.1	10.5	73	64.0	14	.39	.82
m) Social Behavior	88	59.1	13	45	69.2	9	81	71.1	10	4.66	.10
n) Mental Retardation	85	57.0	14	36	55.4	15	78	68.4	12	4.45	.11
o) History of Psychology	78	52.3	15	37	56.9	13.5	63	55.3	16	.45	.80
p) Drugs, Alcoholism, etc.	65	43.6	16	32	49.2	16	70	61.4	15	8.26	.02
q) Love	61	40.9	17	31	47.7	17	59	51.8	18	3.13	.21
r) Heredity/Genetics	58	38.9	18	30	46.2	18.5	61	53.5	17	5.56	.06
s) Marriage and the Family	52	34.9	19	30	46.2	18.5	50	43.9	19	3.33	.19
t) Human Body/Physiology	51	34.2	20	23	35.4	20	44	38.6	20	.55	.76
u) Child Care	44	29.5	21	20	30.8	21	42	36.8	21	1.67	.43
v) Statistic	28	18.8	22	17	26.2	22	26	22.8	22	1.58	.45

In sharp contrast to the strong agreement with one another, when these teacher rankings were contrasted with the rankings students gave to the same topics indicating what they wanted taught in the psychology courses, the coefficients were not so high. When computed, rank order coefficients between student rankings and the Social Studies, Guidance Counselors, and "Other" teachers were found to be .47, .51, and .53, respectively.

Topics which should be taught

An individual may argue that these teachers may have been prevented for whatever reasons from teaching the content and topics they really believed should be included in psychology courses on this level. Was it possible that these teachers were restricted to the content they indicated they included in the above section? One way to offset the possible influence of outside controlling factors as well as to identify what these teachers would include in such courses if given the freedom to select their own content was to ask teachers to specify the topics they thought ought to be included in psychology courses offered to secondary school students.

The same list of 22 topics in the identical order of display as presented previously was provided the respondents. They were asked to indicate all of those topics they believed should be included in their courses and in similar courses in other schools. A space was provided for those who desired to write in other topics and content not included on the original list. Table 7 gives the percentages, ranks, and Chi-square values for the teacher and student responses to this item.

Table 7

A Summary of Frequencies, Percentages, Adjusted Chi Square Values, and Ranks Assigned the Topics These Teachers and Students Indicated Should be Included in Pre-College Psychology Courses

	Social Studies			Guidance Counselors			Others			Chi-		Students	
Topics	F	%	R	F	%	R	F	%	R	Square	p	%	R
a) Personality Theory	137	91.9	1	57	87.7	2	103	90.5	1	.96	.62	60.8	5
b) Emotions	127	85.2	2	58	89.2	1	99	86.8	4.5	.63	.73	76.3	1
c) Mental Illness	125	83.9	3	52	80.0	5	102	89.5	2.5	3.22	.20	64.9	3
d) Mental Health	122	81.9	4	50	76.9	9	102	89.5	2.5	5.29	.07	55.7	10
e) Learning Theory	121	81.2	5	49	75.4	10	92	85.1	7	2.58	.28	50.9	11
f) Motivation	118	79.2	6	51	78.5	7	99	86.8	4.5	3.10	.21	42.7	16
g) The Adolescent	116	77.9	7	53	81.5	4	90	78.9	9	.37	.83	56.7	9
h) Abnormal Behavior	115	77.2	8	48	73.8	11	96	84.2	6	3.20	.20	59.8	7
i) Growth and Development	113	75.8	9	54	83.1	3	88	77.2	11	1.40	.50	45.2	14.5
j) Social Behavior	111	74.5	10	51	78.5	7	80	78.9	9	.84	.66	65.7	2
k) Intelligence	110	73.8	11	51	78.5	7	90	78.9	9	1.11	.57	45.5	13
l) Sensation and Perception	100	67.1	12	40	61.5	13	84	73.7	13	3.00	.22	38.7	18
m) Mental Retardation	85	57.0	13	37	56.9	14	86	75.4	12	10.89	.004	50.0	12
n) Parapsychology, ESP	77	51.7	14	29	44.6	19.5	69	60.5	15	4.52	.10	42.0	17
o) History of Psychology	76	51.0	15	33	50.8	17	62	54.4	18.5	.36	.84	30.6	20
p) Drugs, Alcoholism, etc.	73	49.0	16	36	55.4	15	70	61.4	14	4.03	.13	60.0	6
q) Marriage and the Family	70	47.0	17	42	64.6	12	66	57.9	17	6.60	.04	59.0	8
r) Love	68	45.6	18	35	53.8	16	68	59.6	16	5.18	.08	61.1	4
s) Child care	67	45.0	19	29	44.6	19.5	49	43.0	20	.11	.95	45.2	14.5
t) Heredity and Genetics	58	38.9	20	32	49.2	18	62	54.4	18.5	6.48	.04	35.0	19
u) Human body/physiology	54	36.2	21	27	41.5	21	46	40.4	21	.73	.69	22.3	21
v) Statistics	36	24.2	22	18	27.7	22	32	28.1	22	.60	.74	18.4	22

As in previous studies involving both Florida (Stahl and Casteel, 1973; Stahl, 1976) and Mississippi (Stahl, 1977b) teachers, the topic selected as most important to teach and to be included in high school psychology courses was Personality theory. And, as with the 'topics included' section, these teachers were found to be in relatively close agreement as to what content ought to be taught in their courses. A statistically significant difference was found among the percentage of teachers in each of the three groups who favored the three topics, Mental retardation, Marriage and the family, and Heredity and genetics, yet their rankings for these same topics were very similar. Of the 22 topics listed, the average Social Studies teacher thought 14.0 topics should be included while the Guidance Counselors and "Other" teachers averages were greater than the averages computed for the actual number of concepts and topics then being taught by these same teachers.

When the rankings for these topics were examined using rank correlations, it was found that the Social Studies and "Other" teacher rankings were closer (r_s = .97) than were those for Social Studies-Guidance Counselors (r_s = .88) and the Guidance Counselor-"Other" teachers (r_s = .86). The rankings of each of these three groups were correlated with the rankings of the students as to those topics the students wanted taught in the psychology courses they were taking. The correlation procedure produced coefficients of .57 for the Social Studies-student rankings, .65 for the Guidance Counselor-student rankings, and .63 for the "Other"-student rankings. As can be seen in Table 7, the student rankings were more different from all three sets of teacher rankings than were the teacher rankings with one another.

Finally, the rankings for topics being taught and those that should be taught were compared to determine the degree these teachers were able to emphasize the content in their courses they believed ought to be included in these courses. The rank order coefficient for the Social Studies teacher ranking was .85, for the Guidance Counselors, .89, and for the "Other" teachers, .86.

Methods used in teaching the psychology course

Yet another way of looking at what may actually be going on inside a particular course is to examine the methods the teachers used in teaching their psychology courses. Eight methods were listed as were five scale categories ranging from "Use a great deal" (5) to "Rarely use" (1). This would allow for the examination of frequency of use of one method over another. Table 8 provides the frequencies, Mean frequency of use, and ANOVA values for the responses to this item.

The data displayed in Table 8 illustrates the degree of similarity among these three groups of teachers in the order of overall frequency of their use of methods. It is interesting to note that across all three groups, the teachers used a wide range of methods and differed greatly in the extent of their use of these methods. The ANOVA results reveal that these teachers were quite similar in their frequency of use of these methods.

USE OF AUDIO-VISUAL INSTRUCTIONAL AIDS

Information was collected regarding the orientation of these teachers relative to different types of instructional resources which could be used in teaching the psychology course. When asked whether they felt a need

Table 8

A Summary of the Frequencies, Means, Standard Deviations, and ANOVA F-Values Associated With the Methods These Three Groups Used to Teach Their Respective Psychology Courses

	Social Studies			Guidance Counselors			All Others				
Method of Instruction	F	$\bar{x}$	s.d.	F	$\bar{x}$	s.d.	F	$\bar{x}$	s.d.	F-Values	p
a) Discussion	143	4.17	.71	59	4.03	.79	107	4.12	.74	.70	.50
b) Text and lecture	136	3.77	1.00	55	3.53	.90	107	3.77	.98	1.38	.25
c) Lecture	135	3.70	.95	57	3.74	.86	96	3.67	1.00	.10	.90
d) Teacher demonstrations	132	3.16	.84	52	3.25	.71	100	3.11	.86	.49	.62
e) Small group discussions	141	2.96	.92	59	3.11	.98	102	2.98	.93	.48	.62
f) Values clarification activities	129	2.81	1.02	51	3.06	.97	97	2.88	1.06	1.10	.33
g) Student lab experiments	132	2.59	.99	52	2.63	.91	97	2.75	1.05	.75	.48
h) Guest speakers	132	2.37	.83	55	2.40	.87	97	2.46	.82	.35	.71

for more audio-visual materials and aids to help them do a more adequate job of teaching psychology, 117 of the Social Studies teachers (79.1%), 52 of the Guidance Counselors (80.0%), and 92 of the "Other" teachers (82.1%) indicated the affirmative option. When these same teachers were asked to indicate whether they would actually use such materials and resources were they to be made available to them, 145 Social Studies teachers (97.3%), 63 Guidance Counselors (98.4%), and 109 "Other" teachers (97.3%) reported they would use these materials. Hence, while 4 of 5 teachers felt a real need for audio-visual aids, nearly 100% of the teachers in all three groups reported they would actually use such materials were they made available.

The availability of resources is tied to funding. Was there money available to purchase psychology-related instructional resources? Eighty-eight Social Studies teachers (61.1%), 32 Guidance Counselors (51.6%), and 55 "Other" certified teachers (50.0%) responded by saying their schools had the funds by which they could purchase teaching aids for their courses.

Types of instructional aids desired

In an attempt to identify the exact types of resource aids these teachers wanted to see made available to them, the questionnaire listed 17 different types of resource aids for teachers to indicate their preferences. Teachers were told to mark any and all of those instructional aids they desired. Table 9 reports their responses to this item.

The overwhelming first choice of the Social Studies teachers (106 responses or 71.1%) and Guidance Counselors (49 responses or 75.4%)

Table 9

A Summary of Frequencies, Percentages, Adjusted Chi-Square Values, and Ranks Assigned the Types of Instructional Aids These Teachers and Their Students Wanted to See Made Available to Them for Their Use

	Social Studies			Guidance Counselors			Others			Ch-		Students	
Instructional Aids	F	%	R	F	%	R	F	%	R	Square	p	%	R
a) Films, movies	106	71.1	1	49	75.4	1	74	64.9	2.5	2.38	.30	82.1	1
b) Materials for classroom experiments	94	63.1	2	36	55.5	3	74	64.9	2.5	1.69	.43	52.7	4
c) List of local guest speakers	82	55.0	3	31	47.7	4	73	64.0	4	4.82	.09	73.5	2
d) Sample psychological tests	81	54.4	4	29	44.6	5.5	64	56.1	5	2.40	.30	52.2	5
e) Simulation games	80	53.7	5	44	67.7	2	80	70.2	1	8.51	.01	56.6	3
f) Student workbooks	55	36.9	6	22	33.8	7.5	39	34.2	9	.29	.87	18.9	11
g) Filmstrips	53	35.6	7	21	32.3	9	45	39.5	6.5	.98	.61	49.8	6
h) Newsletters for teachers	50	33.6	8	12	18.5	13.5	45	39.5	6.5	8.42	.01	----	--
i) Overhead transparencies	48	32.2	9	22	33.8	7.5	35	30.7	10	.19	.91	15.7	13
j) Values clarification activities	42	28.2	10	29	44.6	5.5	41	36.0	8	5.69	.06	15.9	12
k) Different kind of a text-book	39	26.2	11	17	26.2	10	32	28.1	13	.14	.93	19.9	10
l) Audio-cassette tapes	36	24.2	12	14	21.5	11.5	34	29.8	11.5	1.79	.41	30.3	8
m) Reference service for students	35	23.5	13	14	21.5	11.5	30	26.3	14	.57	.75	30.4	7
n) Posters of famous psychologists	34	22.8	14	11	16.9	15	28	24.6	15	1.45	.49	5.9	15
o) Career-related pamphlets	32	21.5	15	12	18.5	13.5	34	29.8	11.5	3.75	.15	29.4	9
p) Materials for slow learners	26	17.4	16.5	7	10.8	16.5	25	21.9	16	3.55	.17	11.8	14
q) Curriculum guide for teachers	26	17.4	16.5	7	10.8	16.5	18	15.8	17	1.55	.46	----	--

was the Films, movies option while most of the "Other" certified teachers desired Simulation games as their highest preferred choice (80 responses or 70.2%). Overall, these three groups of teachers tended to rank these options in similar orders of preferences with a few exceptions. The largest difference in ranks found the Guidance Counselors minimizing the need for a Newsletter for teachers (13.5 ranking) while the "Other" certified teachers saw this as being much more important to them (a 6.5 ranking). An examination of the Chi-square values revealed that the percentage of teachers in these three groups who preferred Simulation games and a Newsletter for teachers differed significantly from one another ($p < .05$). A larger percentage of Guidance Counselors (44.6%) preferred Values clarification activities for use in their psychology courses than did Social Studies (28.2%) or the "Other" teachers (36.0%).

When the rankings were formally compared using the Spearman formula, the resulting coefficients were .85 for the Social Studies-Counselor rankings, .86 for the Social Studies-"Other" teacher rankings, and .88 for the Guidance Counselor-"Other" teacher rankings. All these coefficients were found to be significant at the .01 level. Thus, while the Chi-square analysis revealed major differences among these three groups on a few individual items, the correlation coefficients indicated a significant degree of overall agreement for these instructional aids.

SUMMARY

In reviewing the extensive data reported above, it was found that the 149 Social Studies, 65 Guidance Counselors, and 114 "Other" - certified psychology teachers tended to teach psychology:

a) in similar public/private school settings,

b) almost exclusively as an elective rather than required course offering,

c) in courses with heavy female enrollments,

d) in courses with heavy white student enrollments regardless of the ratio of whites-to-blacks in the entire school population,

e) in courses with heavy senior-junior enrollments,

f) with the same level of perceived adequacy about their preparation to teach psychology to high school students,

g) from a similar distribution of behavioristic-humanistic-eclectic perspectives,

h) with the identical objectives posited for their respective courses,

j) with the same emphasis on content and topics,

k) with the same ideas about what these courses should include as far as topic and content are involved,

l) using identical methodologies with about the same frequency of use for each method,

m) with the desire to have the identical instructional aids made available to them for use in their respective classes.

The above represents areas where these teachers were nearly or exactly identical to one another. Where the teachers data were contrasted to student responses regarding the reasons why they enrolled in these courses, topics they wanted taught, etc., the teachers were consistently closer to one another than they were to the student responses. None of these three groups of teachers came closer to meeting the expectations or needs of the students than the others.

Besides the above similarities among these three groups of teachers, several significant differences were found in respect to themselves and their courses. Included in these differences were:

a) Guidance-Counselors were more likely to teach courses in smaller schools with less than 500 students enrolled while Social Studies and "Other" certified teachers taught in small enrollment and dominated large enrollment schools,

b) Guidance Counselors were more likely to teach courses in exclusively rural school settings while Social Studies and "Other" teachers were distributed across rural, urban, and suburban school settings,

c) Social Studies and "Other" teachers were more likely to teach courses in schools offering more than one section of psychology each day,

d) Social Studies and "Other" teachers averaged teaching a significantly larger number of sections of psychology each day over their Guidance Counselor counterparts,

e) Social Studies and "Other" teachers nearly doubled the Guidance Counselors in terms of the average number of students they taught each year,

f) Psychology courses taught by Social Studies and "Other" teachers were perceived as being significantly more popular among students than were those taught by Guidance Counselors,

g) Guidance Counselors and "Other" teachers possessed significantly more college credit hours in psychology and educational psychology than did the Social Studies teachers.

Importantly, while Social Studies certified teachers made up 45.0% of the Illinois psychology teachers and these teachers taught 49.8% of the sections offered and 50.6% of the students enrolled in these courses, as a group they had received significantly less hours of college level psychology course training than had their counterparts. This difference in training was reflected in the lower percentage of Social Studies teachers who felt adequately prepared to teach the course (85.2%) than did the "Other" teachers (91.2%) and Guidance Counselors (90.8%).

The emergence of psychology as the fastest growing social studies course offering has helped to maintain the student enrollment in the social studies. At the same time, these data and results from other states (APA, 1976; Snellgrove, 1973; Stahl, 1974) clearly indicate that social studies-certified teachers are not the only ones who teach the course. Furthermore, merely because it is included in the social studies departments in most schools does not imply that it is perceived nor taught from the perspective of the social studies/sciences. The placing of psychology as a social studies discipline within the precollege curriculum indicates only that it fits there better than it fits in English, Science, or Math Departments.

Meanwhile, there is much to be done relative to improving the teaching of psychology to high school students. In 1973, Stahl and Casteel argued that important decisions needed to be made in respect to teaching psychology on the precollege level. These decisions emphasized three important areas or concerns:

1. Psychology as an instructional discipline for high school students requires definition. This definition should be functional (purposeful), structural (organizational, including scope and sequence), and pedagogical (instructional procedures).
2. Once psychology has been defined, a decision should be made relative to clientele. Who will/should take the course? Preparing course objectives, selection, content and instructional materials, etc., requires different orientation for students on different grade levels. Without decisions for "1" and "2", psychology appears to be a course designed around whatever textbook is used, rather than one which exists on its own merits and disciplinary integrity.

3. With psychology defined, then descriptions as to qualifications and training of teachers to teach the course can be made more specific.

In the years since these suggestions, little has been done to achieve closure on these as well as numerous other areas where decisions regarding precollege psychology ought to be made. While the social studies profession continues to pride itself for increased or maintained enrollments in the elective "non-social studies" psychology course, there is a great deal to be done to convert energies from mere quantitative data to qualitative improvements in the psychology that is taught to one-half million students each year.

Notes

1. Appreciation is extended to Carl Sandberg High School, Orland Park, Illinois and the School of Education, Mississippi University for Women, Columbus, Mississippi for helping provide some of the funding for conducting this study.
2. Blanche Sherman Hunt, Pamela Hronek, and Gary Murphy are to be recognized for their efforts in preparing the tables and figures included herein.
3. The National Council for the Social Studies Special Interest Group: Psychology and the American Psychological Associations Clearinghouse on Pre-College Psychology are two groups which have sought to promote and improve the teaching of psychology on the high school level.
4. Despite its phenomenal growth, a recent informed survey of the literature revealed far fewer articles have been published on pre-college psychology in professional journals since 1975 than during the 1950-1960, 1961-1970, and 1971-75 periods.
5. All percentages throughout the rest of this article are based upon the total number in each group who actually responded to the particular item being considered.

APPENDIX A

ADDITIONAL TABLES AND INFORMATION, INCLUDING TEACHER AND STUDENT QUESTIONNAIRES, RELEVANT TO THIS SURVEY.

Code No.________

QUESTIONNAIRE ON THE TEACHING OF PSYCHOLOGY IN THE SECONDARY SCHOOL

(Please type of print)

Name:______________________________________ Position:__________________
School:____
School Address:__________________________ City:__________________State:________
Zip:________

1. Circle the grades which included in your school: __ 7 8 9 10 11 12
2. Indicate the appropriate classification of your school:
   ___ a) Public ___ b) Private (non-religious) ___ c) Private (religious)
   ___ d) Parochial (Catholic) ___ e) Other (specify)______________________
3. Indicate the size of your school's enrollment (grades 9 and above):
   ___ less than 150 ___ 150 to 350 ___ 351 to 500
   ___ 501 to 1,000 ___ 1,001 to 1,500 ___ 1,501 to 3,000
   ___ more than 3,000
4. What is the closest approximate ratio of whites to blacks in your school?
   ___ a) 95%white/5%black ___ b) 80%/20% ___ c) 65%/35%
   ___ d) 50%/50% ___ e) 35%/65% ___ f) 20%/80%
5. Indicate the most appropriate description of the area which your school serves:
   ___ a) Urban ___ b) Rural ___ c) Suburban ___ d) Inner City
6. If psychological content is included as a portion of any course in your school's curriculum, indicate the course(s) which includes it:
   ___ a) Contemporary Issues ___ e) Child Development
   ___ b) Senior Social Studies ___ f) Sociology
   ___ c) Problems of Democracy ___ g) Home Economics
   ___ d) Family Life/Marriage & the Family ___ h) Other (specify)__________________
7. Is Psychology taught as a separate course for credit in your school? ___ a) Yes ___ b) No
8. Do you teach the separate course(s) in Psychology in your school? ___ a) Yes ___ b) No
9. Is there an Advanced Psychology or Psychology II course offered at your school? ___ a) Yes ___ b) No
10. Is the Psychology course an elective or required course?
    ___ a) Elective ___ b) Required
11. How many sections of Psychology do you teach each day? ______ sections
12. Does your course tend to be "Behavioristic" or "Humanistic" in its approach?
    ___ a) Behavioristic ___ b) Humanistic
13. Indicate the length of time the Psychology course is offered as a separate course of study at your school:
    ___ a) No Psychology course is taught ___ b) six weeks ___ c) nine weeks
    ___ d) one semester/½ year ___ e) a full year course ___ f) Other (Specify) ________________
14. How many students took Psychology as a course of study last year at your school? ______________ students
15. How many students took or are currently enrolled in Psychology courses this year at your school? ______________ students.

16. Please indicate the sex of the majority of students in your Psychology classes:

___ a) Female ___ b) Male

17. What is the closest approximate ratio of whites to blacks in your Psychology classes?

___ a) 95%white/5%black ___ b) 80%/20% ___ c) 65%/35%
___ d) 50%/50% ___ e) 35%/65% ___ f) 20%/80%

18. What grade level(s) of students are eligible to take the Psychology course?

___ a) 9th grade ___ b) 10th grade ___ c) 11th grade ___ d) 12th grade
___ e) 10-12th grades ___ f) 11-12th grades ___ g) Other(specify)________________

19. Topics and content generally taught in Psychology courses in the secondary school are listed below. Please indicate those topics you include in your Psychology course:

_____ a) Intelligence
_____ b) Personality Theory
_____ c) History of Psychology
_____ d) Motivation
_____ e) Emotions
_____ f) Mental Illness
_____ g) Mental Health
_____ h) Mental Retardation
_____ i) Statistics
_____ j) Learning Theories
_____ k) The Human Body (Physiology)
_____ l) Heredity and Genetics
_____ m) Human Growth and Development
_____ n) The Adolescent
_____ o) Sensations and Perception
_____ p) Social Behavior
_____ q) Child Care
_____ r) Marriage and the Family
_____ s) Drugs, Alcoholism, etc.
_____ t) Love
_____ u) Parapsychology, ESP
_____ v) Abnormal Behavior

20. Do you use a state-adopted textbook in teaching this course? ___ a) Yes ___ b) No

21. Below are listed several textbooks which are most often used in this course. Please indicate the text(s) you use:

_____ a) Psychology: Its Principles and Applications (Engle and Snellgrove)
_____ b) Psychology: Understanding Ourselves and Others (Tallent and Spungin)
_____ c) Understanding Psychology (CRM/Random House)
_____ d) Living Psychology (Hershey and Lugo)
_____ e) Psychology (McKeachie and Doyle)
_____ f) Introduction to the Behavioral Sciences (Sandberg and Fenton)
_____ g) Psychology Today-(Text, not magazine) (CRM)
_____ h) Psychology For You (Sol Gordon)
_____ i) Psychology For Living (Sorenson and Malm)
_____ j) Other (Specify) ______________________________________

22. To what extent do you use the textbook in teaching your course?

_____ a) it is never used _____ b) it is used occasionally
_____ c) it is used often _____ d) it is used a great deal of the time
_____ e) it is used for lack of any other relevant reading material(s)

23. What suggestions, if any, would you make to authors and publishers of psychology textbooks and supplementary reading materials in order for their books to better meet your needs?

____

____

24. Below are listed a number of Objectives for teaching psychology on the secondary school level. Check those Objectives which most accurately reflect the objectives you set for your Psychology course(s):

_____ a) to help students in their vocational planning.
_____ b) to help develop an appreciation for Psychology as a field of scientific knowledge and inquiry.
_____ c) to prepare students for college psychology courses.

_____ d) to eliminate many of the misconceptions students have about psychology and psychologists.
_____ e) to assist students in preparing for family life and family living.
_____ f) to assist students in developing a basic philosophy of life.
_____ g) to help students understand and deal with their personal problems.
_____ h) to assist students in understanding the vocabulary associated with psychology.
_____ i) to assist students in adjusting to life and solving life's problems.
_____ j) to help students better understand and accept themselves as individuals.
_____ k) to apply psychological knowledge to understand contemporary social problems and events.
_____ l) to help students cope with problems associated with emerging adolescence.
_____ m) other (specify)____
_____ n) other (specify)____

25. Without looking back to the previous page, please indicate those topics that you believe should be included in high school psychology courses:

_____ a) Intelligence
_____ b) Personality Theory
_____ c) History of Psychology
_____ d) Motivation
_____ e) Emotions
_____ f) Mental Illness
_____ g) Mental Health
_____ h) Mental Retardation
_____ i) Statistics
_____ j) Learning Theory
_____ k) The Human Body (Physiology)
_____ l) Heredity and Genetics
_____ m) Human Growth and Development
_____ n) The Adolescent
_____ o) Sensation and Perception
_____ p) Social Behavior
_____ q) Child Care
_____ r) Marriage and the Family
_____ s) Drugs, Alcoholism, etc.
_____ t) Love
_____ u) Parapsychology, ESP
_____ v) Abnormal Behavior
_____ w) Other____________________
_____ x) Other____________________

26. Please indicate the highest level of your college course training:

___ a) Bachelors (degree held)
___ b) Post-Bachelors
___ c) Masters (degree held)
___ d) Post-Masters
___ e) Specialist (degree held)
___ f) Doctorate (degree held)

27. Please indicate the one area of certification you are currently using in your present school position:

_____ a) Social Studies/Science
_____ b) Science
_____ c) Psychology
_____ d) Administration
_____ e) Home Economics
_____ f) Guidance and/or Counseling
_____ g) Other (Specify) ____________________

28. How many hours of college course credit have you had in Psycholgy and Educational Psychology course work? (Indicate "0" if no hours): ________ semester _______quarter hours

29. Do you feel adequately prepared to teach psychology on the secondary school level in light of your college course background in this subject area? ___ a) Yes ___ b) No

30. Do you feel a need for more materials and instructional resources to help you do a more adequate job of teaching psychology? ___ a) Yes ___ b) No

31. Would you consider using more materials, audio-visual aids, and instructional resources if they were made available for your use? ___ a) Yes ___ b) No

32. If such instructional materials were available for purchase, would you or your school have funds available to purchase these teaching aids? ___ a) Yes ___ b) No

33. Is Psychology as a course of study considered a popular course for students to take at your school? ___ a) Yes ___ b) No

34. Below are listed a number of different methods available for teaching psychology. In addition, there is a scale to indicate the frequency in which you might use each of these methods. Please indicate which methods you use and the frequency of their use.

Method	Very Freq.	Frequently	Sometimes	Rarely	Never
a) Text-and-lecture	____	____	____	____	____
b) Lecture	____	____	____	____	____
c) Teacher demonstrations	____	____	____	____	____
d) Discussion (other than review)	____	____	____	____	____
e) Student lab experiments	____	____	____	____	____
f) Small group discussions	____	____	____	____	____
g) Guest speakers	____	____	____	____	____
h) Values clarification activities	____	____	____	____	____
i) Other (Specify)________________	____	____	____	____	____

35. What type(s) of additional materials and instructional resources related to the teaching of psychology would you want to see made available for your use? (Indicate as many of these you believe you really would use or would really like to see available for your use):

_____ a) a different kind of textbook
_____ b) overhead transparencies
_____ c) audio-cassette tapes
_____ d) materials for slow learners/readers
_____ e) films/movies
_____ f) a reference service for students
_____ g) career-related pamphlets
_____ h) a newsletter for teachers
_____ i) list of local guest speakers who were knowledgeable in psychology
_____ j) filmstrips
_____ k) simulation games
_____ l) posters of famous psychologists
_____ m) values clarification activities
_____ n) student workbooks
_____ o) materials for classroom experiments
_____ p) a curriculum guide
_____ q) sample psychological tests
_____ r) Other (specify) ________________

36. Are you a member of the National Council for the Social Studies?
_____ Yes _____ No _____ No, please sent details

37. Are you a member of the American Psychological Association's High School Affiliate Membership Program?
____a Yes ____b No, and not interested ____c No, please send details

38. Do you receive a copy of the APA newsletter concerning precollege psychology formerly entitled, Periodically, but now entitled, High School Psychology Teacher?
_____ a) Yes _____ b) No _____ c) No, but I would like to receive it!

39. Are you a member of your state's Council for the Social Studies?
_____ a) Yes _____ b) No

40. If you had the opportunity, would you we willing to have your students surveyed relevant to the reasons why they enrolled in your course and what they would like to see offered in the course? (You would receive the results of their survey responses) ____ a) Yes
____ b) No

41. Would you like to see the results of this survey? _____ a) Yes _____ b) No

42. Additional comments: ____

____

____

Code No.______

STUDENT QUESTIONNAIRE ON HIGH SCHOOL PSYCHOLOGY

For the items below, please mark the most appropriate answer:

1. Your age: ____a) 14 ____b) 15 ____c) 16 ____d) 17 ____e) 18 ____f) 19
2. Your sex: ____a) Female ____b) Male
3. Your race: ____a) Black ____b) White ____c) Other(specify)______________
4. Your grade level: ____a) 9th ____b) 10th ____c) 11th ____d) 12th
5. Grade you received in Psychology for the last grading term: ____a) A ____b) B ____c) C ____d) D ____e) F ____f) Did not receive a grade

6. Below are a number of reasons or objectives for taking a course in Psychology in high school. Check those reasons which most accurately fit those you had for taking this Psychology course.

___ a) to help me in my vocational planning.
___ b) to help me develop an appreciation for Psychology as a field of scientific knowledge and inquiry.
___ c) to prepare me for college Psychology courses.
___ d) to eliminate many of the misconceptions I have about Psychology and psychologists.
___ e) to assist me in preparing for my future family life.
___ f) to assist me in developing a basic philosophy of life.
___ g) to help me understand and deal with my personal problems.
___ h) to assist me in understanding the vocabulary associated with Psychology.
___ i) to assist me in adjusting to life and in solving life's problems.
___ j) to help me better understand and accept myself as an individual.
___ k) to apply psychological knowledge to understand contemporary social problems and events.
___ l) to help me cope with problems associated with emerging adolescence.
___ m) other (specify)____
____
____

7. Below are a number of topics and subjects that could be included in high school Psychology courses. Please mark those topics that you believe should be included in the high school Psychology course you are taking:

___ a) Intelligence
___ b) Personality Theories
___ c) History of Psychology
___ d) Motivation
___ e) Emotions
___ f) Mental Illness
___ g) Mental Health
___ h) Mental Retardation
___ i) Statistics
___ j) Learning and Thinking
___ k) The Human Body
___ l) Heredity and Genetics
___ m) Growth and Development
___ n) The Adolescent
___ o) Sensations and Perception
___ p) Social Behavior
___ q) Child Care
___ r) Marriage and the Family
___ s) Drugs, Alcoholism, etc.
___ t) Love
___ u) Parapsychology, Esp
___ v) Abnormal Behavior
___ w) Other ______________________
___ x) Other ______________________

8. Below are listed a number of different materials and teaching aids which your teacher might use to teach the Psychology course you are now taking. Mark the types of materials and aids you would want to see your teacher using to teach you psychology:

___ a) A different kind of textbook
___ b) Overhead transparencies
___ c) Audio-cassette tapes
___ d) Materials for slow learners or slow readers
___ e) Movies/Films
___ f) A weekly newspaper related to psychology
___ g) Pamphlets related to careers in psychology
___ h) A reference service for students working on psychology assignments and papers
___ i) Filmstrips
___ j) Simulation games
___ k) Posters of famous psychologists
___ l) Values clarification activities
___ m) Student workbooks
___ n) Materials for classroom experiments
___ o) Guest speakers
___ p) Sample psychological tests
___ q) Other (specify)___________

____

____

9. Below are listed a number of different methods available for teaching Psychology. There is also a scale to indicate how often these methods could be used. Mark how often you would like to see your teacher use each of the following methods. Leave blank those methods you do not know anything about.

METHOD	Very Freq.	Frequently	Sometimes	Rarely	Never
a) Textbook-and-lecture	___	___	___	___	___
b) Lecture	___	___	___	___	___
c) Teacher demonstrations	___	___	___	___	___
d) Discussion (other than review)	___	___	___	___	___
e) Student lab experiments	___	___	___	___	___
f) Small group discussions	___	___	___	___	___
g) Guest speakers	___	___	___	___	___
h) Values clarification activities	___	___	___	___	___
i) Field trips	___	___	___	___	___
j) Other ___________	___	___	___	___	___

10. Do you have anything else you would like to report about you and your Psychology course? Please use the space below to write any additional comments:

TABLE 2

Descriptive Data on Psychology Students in Three States

Student Characteristic	1,215 Florida Students 1974-75	724 Mississippi Students 1975-76	754 Mississippi Students 1977-78	1137 Illinois Students 1977-78
Females	58.6	63.5	57.8	60.3
Males	41.4	36.5	40.2	39.7
Whites	88.1	78.8	90.8	84.5
Blacks	9.1	21.0	4.9	12.6
Other	2.8	.2	4.3	2.9
Freshman	.6	2.8	.1	.1
Sophomores	2.3	3.8	3.1	4.1
Juniors	31.1	21.5	27.6	29.0
Seniors	66.0	71.9	69.2	66.9
14 years old	.3	2.1	.1	.2
15 years old	.9	3.1	.9	1.3
16 years old	16.9	15.8	16.0	17.1
17 years old	45.8	49.3	46.2	44.6
18 yea[illegible]ld	36.1	28.2	35.9	33.7
19 years old	.0	1.7	1.9	3.1
"A" Grade	26.3	33.6	25.3	26.7
"B" Grade	37.4	37.4	31.9	31.7
"C" Grade	23.4	17.7	26.5	25.3
"D" Grade	8.7	8.0	11.7	10.8
"E/F" Grade	4.1	3.9	3.8	4.5
N.A.	.0	.0	.7	1.0

A Crosstabulation of Descriptive Data Pertaining to the 754 Mississippi Secondary School Students Who Responded to the 1977-78 Psychology Survey; Percentage Data*

	SEX		RACE			GRADE LEVEL				AGE LEVEL						GRADES EARNED					
	Males	Females	Whites	Blacks	Others	Freshmen	Sophomores	Juniors	Seniors	14 Year-Olds	15 Year-Olds	16 Year-Olds	17 Year-Olds	18 Year-Olds	19 Year-Olds	"A" Grades	"B" Grades	"C" Grades	"D" Grades	"E/F" Grades	Did not receive grade
Males	40.2	-	35.8	2.8	1.6	.0	.4	10.8	28.8	.0	.1	5.3	18.5	15.0	1.2	7.2	10.6	11.3	7.8	3.3	.3
Females		57.8	55.0	2.1	2.7	.1	2.7	16.8	40.3	.1	.8	9.7	27.7	20.9	.7	18.1	21.2	15.3	4.0	.8	.4
Whites			90.8	-	-	.0	3.1	25.9	61.9	.0	.9	14.4	42.2	31.8	1.5	23.1	28.1	24.7	10.8	3.5	.7
Blacks				4.9	-	.1	0	1.1	3.7	.1	.0	.4	2.1	2.1	.1	1.3	1.6	.9	.8	.1	0
Others					4.3	0	0	.7	3.5	.0	0	.3	1.6	2.1	.3	1.1	2.0	.9	.1	.1	0
Freshmen						.1	-	-	-	.1	0	0	0	0	0	0	.1	0	0	0	0
Sophomores							3.1	-	-	0	.9	2.0	.1	0	0	.4	1.2	1.2	0	.1	0
Juniors								27.6	-	0	0	12.7	13.2	1.7	0	6.5	7.3	7.4	4.9	1.6	.3
Seniors									69.2	0	0	.4	32.8	34.0	1.9	18.5	23.3	17.9	6.9	2.0	.4
14 Year-Olds										.1	-	-	-	-	-	0	.1	0	0	0	0
15 Year-Olds											.9	-	-	-	-	.1	.3	.3	0	.1	0
16 Year-Olds												16.0	-	-	-	3.8	4.6	4.2	1.6	.8	.1
17 Year-Olds													46.2	-	-	12.3	13.2	12.1	6.3	1.7	.4
18 Year-Olds														35.9	-	8.9	13.4	9.3	3.5	.9	.1
19 Year-Olds															1.9	.4	.3	.7	.4	.1	0
"A" Grades																25.3	-	-	-	-	-
"B" Grades																	31.9	-	-	-	-
"C" Grades																		26.5	-	-	-
"D" Grades																			11.7	-	-
"E/F" Grades																				3.8	-
Did not receive grade																					.7

* Differences in totals due to students who did not respond to one of these 5 categories of items.

A Crosstabulation of Descriptive Data Pertaining to the 754 Mississippi Secondary School Students Who Responded to the (1977-1978) Psychology Survey; Frequency Data*

	SEX		RACE			GRADE LEVEL				AGE LEVEL						GRADES EARNED					
	Males	Females	Whites	Blacks	Others	Freshmen	Sophomores	Juniors	Seniors	14 Year-Olds	15 Year-Olds	16 Year-Olds	17 Year-Olds	18 Year-Olds	19 Year-Olds	"A" Grades	"B" Grades	"C" Grades	"D" Grades	"E/F" Grades	Did not receive grade
Male	302	-	269	21	12	0	3	81	216	0	1	40	139	113	9	54	79	84	58	22	2
Female		450	413	16	20	1	20	206	302	1	6	73	208	157	5	135	158	114	30	6	3
Whites			682	-	-	0	23	194	463	0	7	108	317	239	11	172	209	184	80	26	5
Blacks				37	-	1	0	8	28	1	0	3	16	16	1	10	12	7	6	1	0
Others					32	0	0	5	26	0	0	2	12	16	2	8	15	7	1	1	0
Freshmen						1	-	-	-	1	0	0	0	0	0	0	1	0	0	0	0
Sophomores							23	-	-	0	7	15	1	0	0	3	9	9	0	1	0
Juniors								207	-	0	0	95	99	13	0	48	54	55	36	12	2
Seniors									518	0	0	3	246	255	14	137	173	133	51	15	3
14 Year-Olds										1	-	-	-	-	-	0	1	0	0	0	0
15 Year-Olds											7	-	-	-	-	1	2	2	0	1	0
16 Year-Olds												113	-	-	-	28	34	31	12	6	1
17 Year-Olds													346	-	-	92	98	90	47	13	3
18 Year-Olds														268	-	66	100	69	26	7	1
19 Year-Olds															14	3	2	5	3	1	0
"A" Grades																190	-	-	-	-	-
"B" Grades																	237	-	-	-	-
"C" Grades																		197	-	-	-
"D" Grades																			88	-	-
"E/F" Grades																				28	-
Did not receive grade																					5

Differences in totals due to students who did not respond to one of these 5 categories of items.

A Crosstabulation of Descriptive Data Pertaining to the 1137 Illinois Secondary School Students Who Responded to the 1977-78 Psychology Survey; Percentage Data*

	SEX		RACE			GRADE LEVEL				AGE LEVEL						GRADES EARNED					
	Males	Females	Whites	Blacks	Others	Freshmen	Sophomores	Juniors	Seniors	14 Year-Olds	15 Year-Olds	16 Year-Olds	17 Year-Olds	18 Year-Olds	19 Year-Olds	"A" Grades	"B" Grades	"C" Grades	"D" Grades	"E/F" Grades	Did not receive grade
Males	39.7	-	33.6	5.1	2.9	0	1.1	11.2	27.4	0	.3	6.2	17.5	14.4	1.4	7.1	11.7	11.3	6.3	2.8	.4
Females		60.3	50.9	7.4	1.9	.1	3.0	17.8	39.5	.2	1.1	10.8	27.1	19.3	1.8	19.5	20.1	14.1	4.5	1.7	.5
Whites			84.5	-	-	0	2.7	25.8	56.2	0	.9	14.7	39.6	28.1	1.3	23.5	26.4	22.0	8.8	3.4	.6
Blacks				12.6	-	.1	1.4	2.7	8.3	.2	.5	2.1	3.6	4.4	1.7	2.4	3.9	2.9	1.9	.9	.4
Others					2.9	0	0	.4	2.4	0	0	.2	1.2	1.4	.2	.8	1.3	.6	.1	.1	0
Freshmen						.1	-	-	-	.1	0	0	0	0	0	0	.1	0	0	0	0
Sophomores							4.1	-	-	.1	1.3	2.5	.1	0	.1	.9	1.3	1.1	.5	.2	.1
Juniors								29.0	-	0	0	13.6	13.5	1.8	.1	7.7	7.7	7.3	3.9	2.2	.4
Seniors									66.9	0	0	1.1	31.0	31.9	2.9	18.0	22.8	17.0	6.3	2.1	.5
14 Year-Olds										.2	-	-	-	-	-	0	.2	0	0	0	0
15 Year-Olds											1.3	-	-	-	-	.4	.4	.3	.2	.2	0
16 Year-Olds												17.1	-	-	-	5.3	4.5	4.1	1.9	1.0	.4
17 Year-Olds													44.6	-	-	12.7	13.2	11.3	5.3	1.8	.3
18 Year-Olds														33.7	-	8.0	12.5	8.6	2.9	1.2	.4
19 Year-Olds															3.1	.4	1.0	1.0	.5	.3	0
"A" Grades																26.7	-	-	-	-	-
"B" Grades																	31.7	-	-	-	-
"C" Grades																		25.3	-	-	-
"D" Grades																			10.8	-	-
"E/F" Grades																				4.5	-
Did not receive grade																					1.0

Differences in totals due to students who did not respond to one of these 5 categories of items.

A Crosstabulation of Descriptive Data Pertaining to the 1137 Illinois Secondary School Students Who Responded to the 1977-78 Psychology Survey; Frequency Data*

	SEX		RACE			GRADE LEVEL				AGE LEVEL						GRADES EARNED					
	Males	Females	Whites	Blacks	Others	Freshmen	Sophomores	Juniors	Seniors	14 Year-Olds	15 Year-Olds	16 Year-Olds	17 Year-Olds	18 Year-Olds	19 Year-Olds	"A" Grades	"B" Grades	"C" Grades	"D" Grades	"E/F" Grades	Did not receive grade
Males	450	-	380	58	12	0	12	126	308	0	3	70	198	163	16	80	131	127	71	31	5
Females		684	575	84	21	1	34	200	445	2	13	123	307	219	20	219	225	158	50	19	6
Whites			955	-	-	0	30	289	631	0	10	166	447	317	15	263	295	246	98	38	7
Blacks				142	-	1	16	30	93	2	6	24	41	50	19	27	44	32	21	10	4
Others					33	0	0	5	27	0	0	2	13	16	2	9	15	7	1	1	0
Freshmen						1	-	-	-	1	0	0	0	0	0	0	1	0	0	0	0
Sophomores							46	-	-	1	15	28	1	0	1	10	14	12	6	2	1
Juniors								326	-	0	0	153	152	20	1	86	86	81	44	24	4
Seniors									753	0	0	12	349	359	33	201	254	189	70	23	6
14 Year-Olds										2	-	-	-	-	-	0	2	0	0	0	0
15 Year-Olds											16	-	-	-	-	4	4	3	2	2	0
16 Year-Olds												193	-	-	-	59	51	46	21	11	4
17 Year-Olds													505	-	-	142	148	127	59	20	3
18 Year-Olds														383	-	90	140	97	33	14	4
19 Year-Olds															36	5	11	11	6	3	0
"A" Grades																300	-	-	-	-	-
"B" Grades																	356	-	-	-	-
"C" Grades																		284	-	-	-
"D" Grades																			121	-	-
"E/F" Grades																				50	-
Did not receive grade																					11

Differences in totals due to students who did not respond to one of these 5 categories of items.

List of Additional Reasons Why The 1,137 Illinois Students
Enrolled in the Psychology Course
(1977-1978)

	Reasons for Take Course	Number of Students
1.	I thought it would be interesting	29
2.	I needed a credit	22
3.	To understand the actions of others	18
4.	It is required	18
5.	To understand more about psychology	15
6.	I needed the course to graduate	13
7.	The class time fit my schedule	10
8.	To see what psychology was all about	10
9.	To help me deal with others	8
10.	I thought it would be easy	5
11.	This was the best of all the electives to choose from	4
12.	I like psychology	4
13.	I want to be with my friends who were taking this class	3
14.	To understand children and how to deal with them	3
15.	I liked the teacher	3
16.	I was placed in here by my counselor	3
17.	It was recommended to me by my counselor	3
18.	Others told me it was a good class	2
19.	To broaden my education	2
20.	To understand more about the human mind	1
21.	I didn't know what else to take	1
22.	To "use" psychology on others	1
23.	To add some variety to the kinds of classes I've been taking	1

List of Additional Topics the 1,137 Illinois Students Thought Should be Included in Their Psychology Courses

(1977-1978)

	Topics	Number of Students
1.	Sex	5
2.	Hypnotism	3
3.	The brain	3
4.	Dream analysis	2
5.	Transactional analysis	2
6.	Parents	1
7.	Schizophrenia	1
8.	Relaxation Techniques	1
9.	Mind control	1
10.	Mental Institutions	1
11.	Oral contraceptives	1
12.	Behavior modification	1
13.	The criminal mind	1
14.	Freud's theories	1
15.	Psychology research and experiments	1
16.	Death	1
17.	Religion	1
18.	Juvenile Behavior	1
19.	Practical psychology - day-to-day application of	1
20.	ESP, Telepathy	1

List of Additional Instructional Aids and Methods the 1,137 Illinois Students Wanted to See Used to Teach Them Psychology (1977-1978)

	Instructional Aids and Materials	Number of Students
1.	A mental patient (for observation)	2
2.	Biofeedback Machine	1
3.	Sample tests	1
4.	Home-made movies and films	1
5	Optical illusions	1
6.	Study Sheets (for upcoming tests)	1
7.	Case Studies	1
8.	Outline of class topics and activities	1
9.	Oral reports	1
10.	Individual projects	1
11.	Reaction paper	1
12.	No textbook	1

	Instructional Methods/Activities	
1.	Observations	3
2.	Party	1
3.	Experimenting on others (using principles acquired in class)	1
4.	Free days	1

List of the Summary of "Additional Comments" the 1,137 Illinois Students

Made in the Free Response Segment of the Questionnaire (1977-1978)

	Additional Comments	Number of Students
1.	I thought it was interesting	51
2.	I enjoyed this class very much	29
3.	I had a very good teacher	25
4.	I gained a lot of personal insight from this class	19
5.	We need more diversity in methods	16
6.	I learned a lot	14
7.	This class has helped me understand others better	14
8.	Everyone should take the class	12
9.	This class was very beneficial	12
10.	This course was very educational	11
11.	I like psychology	9
12.	The textbook is too difficult	8
13.	This was the most interesting I've every taken	7
14.	This was a difficult class	6
15.	More discussion is needed	6
16.	When application of learning was demonstrated I gained more insight	6
17.	This should be a year-long class	6
18.	Getting away from lectures was helpful	5
19.	I think psychology is an important class	4
20.	We need a different textbook	4
21.	More out-of-class activities are needed	4
22.	This class has fostered an interest in psychology as a career	4
23.	There should be a follow-up (Psychology II) offered	3
24.	Our textbook is very good	3
25.	Getting away from the textbook was beneficial	3
26.	Learning (memorizing) facts for tests is not going to help me	3
27.	This should be a required class	3

Illinois

Additional comments - page 2	Number of students
28. Materials should be covered slower	3
29. This is a good class for college prep	2
30. This subject was easy to understand	2
31. This was an easy class (in terms of grades)	2
32. This class has cleared up some misconceptions about psychology	2
33. The teacher should take more effort to explain things	2
34. More movies	1
35. More time should be devoted to adolescent psychology	1
36. I haven't learned anything new	1
37. The reading and material were too difficult	1
38. The reading and material should be adapted to slow learners	1
39. Material should be covered faster	1
40. Get away from history of psychology	1
41. More relevance is needed (for the here and now)	1
42. This class helped me in my decision about a future career	1
43. There should be a variety of psychology courses to choose from	1
44. This was not fun	1
45. Grading should be based on more than just tests	1
46. This is the only course that I really got anything out of	1
47. High school psychology should not be placed on the same level as a college psychology course	1
48. Reading should include more than just the textbook	1
49. This course gave me a good basic understanding of psychology	1
50. The teacher shouldn't grade so hard	1
51. The teacher's lectures are helpful for the tests	1
52. Outside activities (field trips, etc.) should all be voluntary	1
53. The best ways to learn are through lectures	
54. More should have been covered on motivation	1

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APPENDIX B

COPIES OF THE IBM COMPUTER PRINTOUTS OF TEACHER DATA OBTAINED FROM THE QUESTIONNAIRES.

THROUGHOUT THIS APPENDIX, THE THREE GROUPS ARE TO BE READ AS FOLLOWS ALONG THE LEFT HAND SIDE OF EVERY TABLE.

1. SOCIAL STUDIES REPRESENTS THE "SOCIAL STUDIES" CERTIFIED TEACHERS
2. SCIENCE SHOULD READ "GUIDANCE COUNSELORS"
3. PSYCHOLOGY SHOULD READ "ALL OTHERS-AREA" CERTIFIED TEACHERS

READERS MAY WANT TO REFER TO THE TEACHER QUESTIONNAIRE PROVIDED IN APPENDIX A TO FOLLOW THESE COMPUTER PRINTOUT FORMS.

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 * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * *
     X104       AREA OF CERTIFICATION                               BY  X6          GRADES IN SCHOOL
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                      X6
              COUNT  I
            ROW PCT  IK-12      LT 7-12  7-12      8-12      9-12      10-12     11-12     12            ROW
            COL PCT  I                                                                                 TOTAL
            TOT PCT  I      1.I      2.I      3.I      4.I      5.I      6.I      7.I      8.I
 X104       --------I--------I--------I--------I--------I--------I--------I--------I--------I
                  1. I      1  I      2  I      3  I      1  I    112  I      7  I      6  I      5  I    137
   SOCIAL STUDIES    I     .7  I    1.5  I    2.2  I     .7  I   81.8  I    5.1  I    4.4  I    3.6  I   43.9
                     I   25.0  I   22.2  I   27.3  I   33.3  I   44.1  I   43.8  I   66.7  I   83.3  I
                     I     .3  I     .6  I    1.0  I     .3  I   35.9  I    2.2  I    1.9  I    1.6  I
                    -I--------I--------I--------I--------I--------I--------I--------I--------I
                  2. I      1  I      3  I      4  I      0  I     51  I      3  I      2  I      1  I     65
                     I    1.5  I    4.6  I    6.2  I     .0  I   78.5  I    4.6  I    3.1  I    1.5  I   20.8
   Guidance          I   25.0  I   33.3  I   36.4  I     .0  I   20.1  I   18.8  I   22.2  I   16.7  I
                     I     .3  I    1.0  I    1.3  I     .0  I   16.3  I    1.0  I     .6  I     .3  I
                    -I--------I--------I--------I--------I--------I--------I--------I--------I
                  3. I      2  I      4  I      4  I      2  I     91  I      6  I      1  I      0  I    110
                     I    1.8  I    3.6  I    3.6  I    1.8  I   82.7  I    5.5  I     .9  I     .0  I   35.3
   all others        I   50.0  I   44.4  I   36.4  I   66.7  I   35.8  I   37.5  I   11.1  I     .0  I
                     I     .6  I    1.3  I    1.3  I     .6  I   29.2  I    1.9  I     .3  I     .0  I
                    -I--------I--------I--------I--------I--------I--------I--------I--------I
             COLUMN         4         9        11         3       254        16         9         6     312
              TOTAL       1.3       2.9       3.5       1.0      81.4       5.1       2.9       1.9   100.0

 CHI SQUARE =     12.97010 WITH  14 DEGREES OF FREEDOM   SIGNIFICANCE =    .5289

 NUMBER OF MISSING OBSERVATIONS =        19
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* * * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * * *
     X104      AREA OF CERTIFICATION                                          BY  X7                CLASSIFICATION
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                 X7
         COUNT   I
       ROW PCT   IPUBLIC     PRIVATE    PRIVATE    CATHOLIC    ROW
       COL PCT   I           NR         R          P           TOTAL
       TOT PCT   I       1.I        2.I        3.I        4.I
X104    ---------I---------I---------I---------I---------I
              1.  I   123   I         1 I         1 I     24  I
  SOCIAL STUDIES  I  82.6   I        .7 I        .7 I   16.1  I    149
                  I  45.4   I   20.0    I  11.1     I   55.8  I    45.4
                  I  37.5   I        .3 I        .3 I    7.3  I
                 -I---------I---------I---------I---------I
              2.  I    54   I         0 I         4 I      7  I
  SCIENCE         I  83.1   I        .0 I       6.2 I   10.8  I     65
                  I  19.9   I        .0 I      44.4 I   16.3  I    19.8
                  I  16.5   I        .0 I       1.2 I    2.1  I
                 -I---------I---------I---------I---------I
              3.  I    94   I         4 I         4 I     12  I
  PSYCHOLOGY      I  82.5   I       3.5 I       3.5 I   10.5  I    114
                  I  34.7   I    80.0   I      44.4 I   27.9  I    34.8
                  I  28.7   I       1.2 I       1.2 I    3.7  I
                 -I---------I---------I---------I---------I
         COLUMN       271          5          9         43         328
         TOTAL       82.6        1.5        2.7       13.1       100.0
CHI SQUARE =     11.85320 WITH    6 DEGREES OF FREEDOM   SIGNIFICANCE =   .0653
NUMBER OF MISSING OBSERVATIONS =          3
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * *
    X109       AREA OF CERTIFICATION                                 BY  X8            SIZE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  10

                      X8
              COUNT  I
            ROW PCT  ILT 150     150 TO 3 351 TO 5 501 TO 1 1001 TO  150 TO 3 GT 3000      ROW
            COL PCT  I           50       00       000      1500     000                  TOTAL
            TOT PCT  I       1.I      2.I      3.I      4.I      5.I      6.I      7.I
X109        ---------I--------I--------I--------I--------I--------I--------I--------I
                  1. I      7 I     23 I     21 I     29 I     17 I     45 I      6 I     148
  SOCIAL STUDIES     I    4.7 I   15.5 I   14.2 I   19.6 I   11.5 I   30.4 I    4.1 I    45.3
                     I   24.1 I   33.3 I   52.5 I   40.8 I   54.8 I   60.0 I   50.0 I
                     I    2.1 I    7.0 I    6.4 I    8.9 I    5.2 I   13.8 I    1.8 I
                    -I--------I--------I--------I--------I--------I--------I--------I
                  2. I      8 I     24 I      8 I     18 I      2 I      5 I      0 I      65
  SCIENCE            I   12.3 I   36.9 I   12.3 I   27.7 I    3.1 I    7.7 I     .0 I    19.9
                     I   27.6 I   34.8 I   20.0 I   25.4 I    6.5 I    6.7 I     .0 I
                     I    2.4 I    7.3 I    2.4 I    5.5 I     .6 I    1.5 I     .0 I
                    -I--------I--------I--------I--------I--------I--------I--------I
                  3. I     14 I     22 I     11 I     24 I     12 I     25 I      6 I     114
  PSYCHOLOGY         I   12.3 I   19.3 I    9.6 I   21.1 I   10.5 I   21.9 I    5.3 I    34.9
                     I   48.3 I   31.9 I   27.5 I   33.8 I   38.7 I   33.3 I   50.0 I
                     I    4.3 I    6.7 I    3.4 I    7.3 I    3.7 I    7.6 I    1.8 I
                    -I--------I--------I--------I--------I--------I--------I--------I
             COLUMN       29       69       40       71       31       75       12      327
             TOTAL       8.9     21.1     12.2     21.7      9.5     22.9      3.7    100.0
CHI SQUARE =     34.80321 WITH  12 DEGREES OF FREEDOM   SIGNIFICANCE =   .0005
NUMBER OF MISSING OBSERVATIONS =          4
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* * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                     BY  X9          RACIAL RATIO
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                     X9
           COUNT   I
         ROW PCT   I.95W-.05  .80W-.20  .65W-.35  .50W-.50  .35W-.65  .20W-.80   ROW
         COL PCT   IB         B         B         B         B         B          TOTAL
         TOT PCT   I       1.I       2.I       3.I       4.I       5.I       6.I
X104     ----------I---------I---------I---------I---------I---------I---------I
               1.  I   113   I    22   I     6   I     1   I     1   I     4   I    147
  SOCIAL STUDIES   I   76.9  I   15.0  I    4.1  I     .7  I     .7  I    2.7  I   45.2
                   I   42.2  I   71.0  I   60.0  I   33.3  I   50.0  I   36.4  I
                   I   34.8  I    6.8  I    1.8  I     .3  I     .3  I    1.2  I
                  -I---------I---------I---------I---------I---------I---------I
               2.  I    57   I     2   I     1   I     1   I     1   I     3   I     65
  SCIENCE          I   87.7  I    3.1  I    1.5  I    1.5  I    1.5  I    4.6  I   20.0
                   I   21.3  I    6.5  I   10.0  I   33.3  I   50.0  I   27.3  I
                   I   17.5  I     .6  I     .3  I     .3  I     .3  I     .9  I
                  -I---------I---------I---------I---------I---------I---------I
               3.  I    98   I     7   I     3   I     1   I     0   I     4   I    113
  PSYCHOLOGY       I   86.7  I    6.2  I    2.7  I     .9  I     .0  I    3.5  I   34.8
                   I   36.6  I   22.6  I   30.0  I   33.3  I     .0  I   36.4  I
                   I   30.2  I    2.2  I     .9  I     .3  I     .0  I    1.2  I
                  -I---------I---------I---------I---------I---------I---------I
          COLUMN       268        31        10         3         2        11        325
           TOTAL       82.5       9.5       3.1        .9        .6       3.4      100.0
CHI SQUARE =     13.23725 WITH  10 DEGREES OF FREEDOM   SIGNIFICANCE =   .2107

NUMBER OF MISSING OBSERVATIONS =        6
      - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * *
   X109      AREA OF CERTIFICATION                                     BY  X10       AREA
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                  X10
         COUNT   I
        ROW PCT  IURBAN     RURAL     SUBURBAN INNER CI   ROW
        COL PCT  I                             TY         TOTAL
        TOT PCT  I      1.I      2.I      3.I      4.I
X109    ---------I--------I--------I--------I--------I
             1.  I    37  I    61  I    46  I     4  I    148
  SOCIAL STUDIES I  25.0  I  41.2  I  31.1  I   2.7  I   45.5
                 I  56.9  I  37.0  I  51.7  I  66.7  I
                 I  11.4  I  18.8  I  14.2  I   1.2  I
                -I--------I--------I--------I--------I
             2.  I     7  I    48  I     8  I     1  I     64
  SCIENCE        I  10.9  I  75.0  I  12.5  I   1.6  I   19.7
                 I  10.8  I  29.1  I   9.0  I  16.7  I
                 I   2.2  I  14.8  I   2.5  I    .3  I
                -I--------I--------I--------I--------I
             3.  I    21  I    56  I    35  I     1  I    113
  PSYCHOLOGY     I  18.6  I  49.6  I  31.0  I    .9  I   34.8
                 I  32.3  I  33.9  I  39.3  I  16.7  I
                 I   6.5  I  17.2  I  10.8  I    .3  I
                -I--------I--------I--------I--------I
          COLUMN      65      165       89        6       325
           TOTAL    20.0     50.8     27.4      1.8     100.0
CHI SQUARE =     22.31518 WITH    6 DEGREES OF FREEDOM   SIGNIFICANCE =   .0011

NUMBER OF MISSING OBSERVATIONS =         6
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* * * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * *
    X109      AREA OF CERTIFICATION                                   BY  X11      CONTEMPORARY ISSUES
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 O

                     X11
           COUNT   I
         ROW PCT   INO         YES          ROW
         COL PCT   I                        TOTAL
         TOT PCT   I       0.I       1.I
X109      --------I--------I--------I
               1. I   134  I    15  I     149
  SOCIAL STUDIES  I  89.9  I  10.1  I    45.4
                  I  45.9  I  41.7  I
                  I  40.9  I   4.6  I
                 -I--------I--------I
               2. I    57  I     8  I      65
  SCIENCE         I  87.7  I  12.3  I    19.8
                  I  19.5  I  22.2  I
                  I  17.4  I   2.4  I
                 -I--------I--------I
               3. I   101  I    13  I     114
  PSYCHOLOGY      I  88.6  I  11.4  I    34.8
                  I  34.6  I  36.1  I
                  I  30.8  I   4.0  I
                 -I--------I--------I
          COLUMN     292       36         328
           TOTAL    89.0     11.0       100.0

CHI SQUARE =        .26527 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .8758

NUMBER OF MISSING OBSERVATIONS =        3

          - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* *       * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * * *
   X104       AREA OF CERTIFICATION                                    BY  X12          SENIOR STUDIES
* * *   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                        X12
           COUNT   I
         ROW PCT   INO        YES          ROW
         COL PCT   I                      TOTAL
         TOT PCT   I        0.I       1.I
X104     ----------I---------I---------I
              1.   I   125   I    24   I    149
  SOCIAL STUDIES   I  83.9   I  16.1   I   45.4
                   I  44.2   I  53.3   I
                   I  38.1   I   7.3   I
                  -I---------I---------I
              2.   I    55   I    10   I     65
  SCIENCE          I  84.6   I  15.4   I   19.8
                   I  19.4   I  22.2   I
                   I  16.8   I   3.0   I
                  -I---------I---------I
              3.   I   103   I    11   I    114
  PSYCHOLOGY       I  90.4   I   9.6   I   34.8
                   I  36.4   I  24.4   I
                   I  31.4   I   3.4   I
                  -I---------I---------I
          COLUMN       283        45        328
           TOTAL      86.3      13.7      100.0
CHI SQUARE =      2.46557 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .2915
NUMBER OF MISSING OBSERVATIONS =        3
- - - -     - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -   - -
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* * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                BY  X13        PROBLEM OF DEMOCRACY
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                   X13
           COUNT  I
          ROW PCT INO         YES        ROW
          COL PCT I                      TOTAL
          TOT PCT I      0.I        1.I
X104      --------I--------I--------I
              1.  I   138  I    11  I    149
  SOCIAL STUDIES  I  92.6  I   7.4  I   45.4
                  I  45.4  I  45.8  I
                  I  42.1  I   3.4  I
                 -I--------I--------I
              2.  I    59  I     6  I     65
  SCIENCE         I  90.8  I   9.2  I   19.8
                  I  19.4  I  25.0  I
                  I  18.0  I   1.8  I
                 -I--------I--------I
              3.  I   107  I     7  I    114
  PSYCHOLOGY      I  93.9  I   6.1  I   34.8
                  I  35.2  I  29.2  I
                  I  32.6  I   2.1  I
                 -I--------I--------I
          COLUMN     304        24       328
           TOTAL    92.7       7.3     100.0

CHI SQUARE =       .58472 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .7465

NUMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * * *
 X104       AREA OF CERTIFICATION                          BY  X14          FAMILY LIFE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                    X14
        COUNT     I
      ROW PCT     INO          YES            ROW
      COL PCT     I                           TOTAL
      TOT PCT     I          0.I         1.I
14          --------I---------I---------I
              1.  I     90    I     59   I     149
SOCIAL STUDIES    I   60.4    I   39.6   I    45.4
                  I   50.0    I   39.9   I
                  I   27.4    I   18.0   I
                 -I---------I---------I
              2.  I     37    I     28   I      65
SCIENCE           I   56.9    I   43.1   I    19.8
                  I   20.6    I   18.9   I
                  I   11.3    I    8.5   I
                 -I---------I---------I
              3.  I     53    I     61   I     114
PSYCHOLOGY        I   46.5    I   53.5   I    34.8
                  I   29.4    I   41.2   I
                  I   16.2    I   18.6   I
                 -I---------I---------I
         COLUMN        180        148          328
          TOTAL       54.9       45.1        100.0
I SQUARE =      5.18462 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0748
NBER OF MISSING OBSERVATIONS =          3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * *
TION       AREA OF CERTIFICATION                                BY  X15        CHILD DEVELOPMENT
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                  X15
           COUNT  I
         ROW PCT  INO          YES          ROW
         COL PCT  I                         TOTAL
         TOT PCT  I        0.I        1.I
4        ---------I---------I---------I
              1.  I    82   I    67   I    149
OCIAL  STUDIES    I   55.0  I   45.0  I   45.4
                  I   42.1  I   50.4  I
                  I   25.0  I   20.4  I
                 -I---------I---------I
              2.  I    46   I    19   I     65
CIENCE            I   70.8  I   29.2  I   19.8
                  I   23.6  I   14.3  I
                  I   14.0  I    5.8  I
                 -I---------I---------I
              3.  I    67   I    47   I    114
SYCHOLOGY         I   58.8  I   41.2  I   34.8
                  I   34.4  I   35.3  I
                  I   20.4  I   14.3  I
                 -I---------I---------I
          COLUMN      195       133        328
           TOTAL      59.5      40.5      100.0
 SQUARE =      4.68200 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .0962

BER OF MISSING OBSERVATIONS =          3
                          -   - -   -   - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * *
  X104       AREA OF CERTIFICATION                                 BY  X16        SOCIOLOGY
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 0

                  X16
          COUNT   I
        ROW PCT   INO          YES          ROW
        COL PCT   I                         TOTAL
        TOT PCT   I        0.I        1.I
104       --------I--------I--------I
              1.  I    72  I    77  I     149
 SOCIAL STUDIES   I  48.3  I  51.7  I    45.4
                  I  39.3  I  53.1  I
                  I  22.0  I  23.5  I
                 -I--------I--------I
              2.  I    40  I    25  I      65
 SCIENCE          I  61.5  I  38.5  I    19.8
                  I  21.9  I  17.2  I
                  I  12.2  I   7.6  I
                 -I--------I--------I
              3.  I    71  I    43  I     114
 PSYCHOLOGY       I  62.3  I  37.7  I    34.8
                  I  38.8  I  29.7  I
                  I  21.6  I  13.1  I
                 -I--------I--------I
         COLUMN       183      145        328
          TOTAL      55.8     44.2      100.0
HI SQUARE =      6.18712 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0453
UMBER OF MISSING OBSERVATIONS =        3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * *
    X104      AREA OF CERTIFICATION                                            BY  X17       HOME ECONOMICS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                X17  .
        COUNT   I
       ROW PCT  INO         YES          ROW
       COL PCT  I                        TOTAL
       TOT PCT  I       0.I        1.I
X104    --------I--------I--------I
            1.  I   125  I     24  I      149
  SOCIAL STUDIES I  83.9  I   16.1  I     45.4
                I  45.3  I   46.2  I
                I  38.1  I    7.3  I
               -I--------I--------I
            2.  I    53  I     12  I       65
  SCIENCE       I  81.5  I   18.5  I     19.8
                I  19.2  I   23.1  I
                I  16.2  I    3.7  I
               -I--------I--------I
            3.  I    98  I     16  I      114
  PSYCHOLOGY    I  86.0  I   14.0  I     34.8
                I  35.5  I   30.8  I
                I  29.9  I    4.9  I
               -I--------I--------I
        COLUMN     276       52          328 .
         TOTAL     84.1     15.9        100.0
CHI SQUARE =       .62119 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .7330
NUMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                      BY X18       OTHER
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                    X18
          COUNT   I
        ROW PCT   INO         YES          ROW
        COL PCT   I                        TOTAL
        TOT PCT   I        0.I        1.I
X104     ---------I--------I--------I
              1.  I   137  I    12  I    149
  SOCIAL STUDIES  I  91.9  I   8.1  I   45.4
                  I  45.2  I  48.0  I
                  I  41.8  I   3.7  I
                 -I--------I--------I
              2.  I    61  I     4  I     65
  SCIENCE         I  93.8  I   6.2  I   19.8
                  I  20.1  I  16.0  I
                  I  18.6  I   1.2  I
                 -I--------I--------I
              3.  I   105  I     9  I    114
  PSYCHOLOGY      I  92.1  I   7.9  I   34.8
                  I  34.7  I  36.0  I
                  I  32.0  I   2.7  I
                 -I--------I--------I
          COLUMN     303       25        328
           TOTAL    92.4      7.6      100.0

CHI SQUARE =       .25047 WITH   2 DEGREES OF FREEDOM    SIGNIFICANCE =    .8823

NUMBER OF MISSING OBSERVATIONS =          3

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F * * * * * * * * * * * * * * * * *
   X109       AREA OF CERTIFICATION                                 BY  X19      SEPARATE COURSE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                    X19
           COUNT   I
         ROW PCT  IYES        NO           ROW
         COL PCT  I                        TOTAL
         TOT PCT  I          1.I        2.I
X109     --------I---------I--------I
              1.  I    148   I      1   I    149
  SOCIAL STUDIES  I   99.3   I     .7   I    45.4
                  I   45.3   I  100.0   I
                  I   45.1   I     .3   I
                 -I---------I--------I
              2.  I     65   I      0   I     65
  SCIENCE         I  100.0   I     .0   I    19.8
                  I   19.9   I     .0   I
                  I   19.8   I     .0   I
                 -I---------I--------I
              3.  I    114   I      0   I    114
  PSYCHOLOGY      I  100.0   I     .0   I    34.8
                  I   34.9   I     .0   I
                  I   34.8   I     .0   I
                 -I---------I--------I
          COLUMN       327          1        328
           TOTAL      99.7         .3      100.0
CHI SQUARE =     1.20502 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .5474
NUMBER OF MISSING OBSERVATIONS =         3
- - - -   - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * * * *
   X104       AREA OF CERTIFICATION                               BY  X20          TEACH SEPARATE COURSE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                X20
        COUNT  I
      ROW PCT  IYES           ROW
      COL PCT  I              TOTAL
      TOT PCT  I        1.I
X104   --------I--------I
            1. I   148   I    148
  SOCIAL STUDIES I 100.0 I   45.7
               I  45.7   I
               I  45.7   I
              -I--------I
            2. I    64   I     64
  SCIENCE      I 100.0   I   19.8
               I  19.8   I
               I  19.8   I
              -I--------I
            3. I   112   I    112
  PSYCHOLOGY   I 100.0   I   34.6
               I  34.6   I
               I  34.6   I
              -I--------I
       COLUMN      324        324
        TOTAL    100.0      100.0

NUMBER OF MISSING OBSERVATIONS =        7
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* * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * *
   X104       AREA OF CERTIFICATION                                   BY  X21        ADVANCED PSYCHOLOGY
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * PAGE  1 OF

                       X21
            COUNT    I
          ROW PCT    IYES       NO           ROW
          COL PCT    I                       TOTAL
          TOT PCT    I        1.I        2.I
X104      --------I---------I---------I
               1. I     25  I    123  I    148
  SOCIAL STUDIES  I   16.9  I   83.1  I   45.7
                  I   55.6  I   44.1  I
                  I    7.7  I   38.0  I
                 -I---------I---------I
               2. I      2  I     61  I     63
  SCIENCE         I    3.2  I   96.8  I   19.4
                  I    4.4  I   21.9  I
                  I     .6  I   18.8  I
                 -I---------I---------I
               3. I     18  I     95  I    113
  PSYCHOLOGY      I   15.9  I   84.1  I   34.9
                  I   40.0  I   34.1  I
                  I    5.6  I   29.3  I
                 -I---------I---------I
           COLUMN       45        279       324
            TOTAL     13.9       86.1     100.0
CHI SQUARE =      7.55628 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .0229
NUMBER OF MISSING OBSERVATIONS =        7
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * * *
     X104       AREA OF CERTIFICATION                                  BY  X22        ELECTIVE OR REQUIRED
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *    PAGE  1 OF

                       X22
            COUNT    I
          ROW PCT    IELECTIVE REQUIRED
          COL PCT    I                                        ROW
          TOT PCT    I                                        TOTAL
X104                 I       1.I        2.I        3.I
            ---------I---------I----------I----------I
               1.    I   144   I     4    I     1    I     149
 SOCIAL STUDIES      I   96.6  I    2.7   I     .7   I     45.6
                     I   45.3  I   66.7   I   33.3   I
                     I   44.0  I    1.2   I     .3   I
                    -I---------I----------I----------I
               2.    I    62   I     1    I     2    I      65
 SCIENCE             I   95.4  I    1.5   I    3.1   I     19.9
                     I   19.5  I   16.7   I   66.7   I
                     I   19.0  I     .3   I     .6   I
                    -I---------I----------I----------I
               3.    I   112   I     1    I     0    I     113
 PSYCHOLOGY          I   99.1  I     .9   I     .0   I     34.6
                     I   35.2  I   16.7   I     .0   I
                     I   34.3  I     .3   I     .0   I
                    -I---------I----------I----------I
           COLUMN        318         6          3          327
            TOTAL        97.2       1.8         .9        100.0

CHI SQUARE =      5.68164 WITH    4 DEGREES OF FREEDOM   SIGNIFICANCE =    .2242

NUMBER OF MISSING OBSERVATIONS =          4
- - -     - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -   - -
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* * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                          BY  X23           NO. OF SECTIONS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                 X23
         COUNT  I
       ROW PCT  I                                                                         ROW
       COL PCT  I                                                                         TOTAL
       TOT PCT  I      1.I      2.I      3.I      4.I      5.I      6.I      7.I
X104    --------I--------I--------I--------I--------I--------I--------I--------I
            1.  I    52  I    37  I    29  I    20  I     7  I     2  I     0  I     147
  SOCIAL STUDIES I  35.4 I  25.2  I  19.7  I  13.6  I   4.8  I   1.4  I    .0  I     45.7
                I  36.6  I  51.4  I  52.7  I  62.5  I  38.9  I 100.0  I    .0  I
                I  16.1  I  11.5  I   9.0  I   6.2  I   2.2  I    .6  I    .0  I
               -I--------I--------I--------I--------I--------I--------I--------I
            2.  I    44  I    13  I     5  I     2  I     0  I     0  I     0  I      64
  SCIENCE       I  68.8  I  20.3  I   7.8  I   3.1  I    .0  I    .0  I    .0  I    19.9
                I  31.0  I  18.1  I   9.1  I   6.3  I    .0  I    .0  I    .0  I
                I  13.7  I   4.0  :   1.6  I    .6  I    .0  I    .0  I    .0  I
               -I--------I--------I--------I--------I--------I--------I--------I
            3.  I    46  I    22  I    21  I    10  I    11  I     0  I     1  I     111
  PSYCHOLOGY    I  41.4  I  19.8  I  18.9  I   9.0  I   9.9  I    .0  I    .9  I    34.5
                I  32.4  I  30.6  I  38.2  I  31.3  I  61.1  I    .0  I 100.0  I
                I  14.3  I   6.8  I   6.5  I   3.1  I   3.4  I    .0  I    .3  I
               -I--------I--------I--------I--------I--------I--------I--------I
        COLUMN       142       72       55       32       18        2        1        322
         TOTAL      44.1     22.4     17.1      9.9      5.6       .6       .3      100.0

CHI SQUARE =     33.35536 WITH  12 DEGREES OF FREEDOM   SIGNIFICANCE =    .0009

NUMBER OF MISSING OBSERVATIONS =        9
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* * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                  BY  X24        BEHAVIORISTIC OR HUMANISTIC
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                    X24
         COUNT    I
         ROW PCT  IBEHAVIOR HUMANIST ECLECTIC    ROW
         COL PCT  IISTIC    IC                  TOTAL
         TOT PCT  I       1.I       2.I       3.I
X104     ---------I--------I--------I--------I
               1. I    56  I    60  I    27  I   143
  SOCIAL STUDIES  I  39.2  I  42.0  I  18.9  I  45.1
                  I  48.3  I  39.0  I  57.4  I
                  I  17.7  I  18.9  I   8.5  I
                 -I--------I--------I--------I
               2. I    18  I    38  I     7  I    63
  SCIENCE         I  28.6  I  60.3  I  11.1  I  19.9
                  I  15.5  I  24.7  I  14.9  I
                  I   5.7  I  12.0  I   2.2  I
                 -I--------I--------I--------I
               3. I    42  I    56  I    13  I   111
  PSYCHOLOGY      I  37.8  I  50.5  I  11.7  I  35.0
                  I  36.2  I  36.4  I  27.7  I
                  I  13.2  I  17.7  I   4.1  I
                 -I--------I--------I--------I
          COLUMN      116       154        47     317
          TOTAL      36.6      48.6      14.8   100.0

CHI SQUARE =      7.46830 WITH   4 DEGREES OF FREEDOM   SIGNIFICANCE =   .1131

NUMBER OF MISSING OBSERVATIONS =       14
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* * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                BY  X25        LENGTH OF TIME
* * * * *  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                   X25
           COUNT  I
         ROW PCT  ISIX WEEK NINE WEE ONE SEME FULL YEA OTHER       ROW
         COL PCT  IS        KS       STER     R COURSE             TOTAL
         TOT PCT  I      2.I      3.I      4.I      5.I      6.I
X104      --------I--------I--------I--------I--------I--------I
              1.  I      1 I      4 I    114 I     28 I      2 I    149
  SOCIAL STUDIES  I     .7 I    2.7 I   76.5 I   18.8 I    1.3 I   45.6
                  I  100.0 I   44.4 I   46.5 I   41.2 I   50.0 I
                  I     .3 I    1.2 I   34.9 I    8.6 I     .6 I
                 -I--------I--------I--------I--------I--------I
              2.  I      0 I      3 I     50 I     12 I      0 I     65
  SCIENCE         I     .0 I    4.6 I   76.9 I   18.5 I     .0 I   19.9
                  I     .0 I   33.3 I   20.4 I   17.6 I     .0 I
                  I     .0 I     .9 I   15.3 I    3.7 I     .0 I
                 -I--------I--------I--------I--------I--------I
              3.  I      0 I      2 I     81 I     28 I      2 I    113
  PSYCHOLOGY     -I     .0 I    1.8 I   71.7 I   24.8 I    1.8 I   34.6
                  I     .0 I   22.2 I   33.1 I   41.2 I   50.0 I
                  I     .0 I     .6 I   24.8 I    8.6 I     .6 I
                 -I--------I--------I--------I--------I--------I
          COLUMN         1        9      245       68        4      327
           TOTAL        .3      2.8     74.9     20.8      1.2    100.0

CHI SQUARE =     5.06488 WITH   8 DEGREES OF FREEDOM   SIGNIFICANCE =   .7506

NUMBER OF MISSING OBSERVATIONS =        4
   - -  - - -  -  - - - -  - - - - - - - -  - - - - - -
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* * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                BY  X2A       SEX OF MAJORITY
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                    X2A
           COUNT   I
         ROW PCT   IFEMALE    MALE       EVEN         ROW
         COL PCT   I                                  TOTAL
         TOT PCT   I        1.I        2.I        3.I
X104     ---------I---------I---------I---------I
              1.   I    103  I     21  I     22  I     146
  SOCIAL STUDIES   I   70.5  I   14.4  I   15.1  I    45.3
                   I   43.1  I   58.3  I   46.8  I
                   I   32.0  I    6.5  I    6.8  I
                  -I---------I---------I---------I
              2.   I     42  I      7  I     14  I      63
  SCIENCE          I   66.7  I   11.1  I   22.2  I    19.6
                   I   17.6  I   19.4  I   29.8  I
                   I   13.0  I    2.2  I    4.3  I
                  -I---------I---------I---------I
              3.   I     94  I      8  I     11  I     113
  PSYCHOLOGY       I   83.2  I    7.1  I    9.7  I    35.1
                   I   39.3  I   22.2  I   23.4  I
                   I   29.2  I    2.5  I    3.4  I
                  -I---------I---------I---------I
           COLUMN       239        36         47        322
           TOTAL       74.2      11.2       14.6      100.0
CHI SQUARE =     9.37537 WITH   4 DEGREES OF FREEDOM   SIGNIFICANCE =   .0524
NUMBER OF MISSING OBSERVATIONS =        7
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 . . . . . . . . . . . . . . . . . .  C R O S S T A B U L A T I O N   O F  . . . . . . . . . . . . . . . . . .
    X104       AREA OF CERTIFICATION                              BY  X29        RATIO OF WHITES TO BLACKS
 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  PAGE  1 OF

                  X29
          COUNT   I
        ROW PCT   I.95 WHIT  .80-.20   .65-.35   .50-.50   .35-.65   .20-.80     ROW
        COL PCT   IE-.05 BL                                                      TOTAL
        TOT PCT   I      1.I       2.I       3.I       4.I       5.I       6.I
X104     --------I---------I---------I---------I---------I---------I---------I
             1.  I   126   I    15   I     2   I     0   I     1   I     2   I    146
  SOCIAL STUDIES I   86.3  I   10.3  I    1.4  I     .0  I     .7  I    1.4  I   45.2
                 I   43.9  I   71.4  I   50.0  I     .0  I  100.0  I   25.0  I
                 I   39.0  I    4.6  I     .6  I     .0  I     .3  I     .6  I
                -I---------I---------I---------I---------I---------I---------I
             2.  I    57   I     2   I     1   I     2   I     0   I     3   I     65
  SCIENCE        I   87.7  I    3.1  I    1.5  I    3.1  I     .0  I    4.6  I   20.1
                 I   19.9  I    9.5  I   25.0  I  100.0  I     .0  I   37.5  I
                 I   17.6  I     .6  I     .3  I     .6  I     .0  I     .9  I
                -I---------I---------I---------I---------I---------I---------I
             3.  I   104   I     4   I     1   I     0   I     0   I     3   I    112
  PSYCHOLOGY     I   92.9  I    3.6  I     .9  I     .0  I     .0  I    2.7  I   34.7
                 I   36.2  I   19.0  I   25.0  I     .0  I     .0  I   37.5  I
                 I   32.2  I    1.2  I     .3  I     .0  I     .0  I     .9  I
                -I---------I---------I---------I---------I---------I---------I
         COLUMN      287        21          4         2         1         8       323
          TOTAL      88.9       6.5        1.2        .6        .3       2.5     100.0
CHI SQUARE =     17.43363 WITH  10 DEGREES OF FREEDOM   SIGNIFICANCE =    .0653

NUMBER OF MISSING OBSERVATIONS =          8
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* *       * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                               BY  X30        GRADE LEVEL
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                 X30
        COUNT   I
        ROW PCT I10TH GRA 11TH GRA 12TH GRA 10-12TH   11-12TH   OTHER        ROW
        COL PCT IDE       DE       DE       GRADES    GRADES                 TOTAL
        TOT PCT I     2.I      3.I      4.I       5.I       6.I       7.I
X104    --------I--------I--------I--------I---------I---------I---------I
              1.  I     1  I     1  I    39  I    10   I    93   I     3   I    147
 SOCIAL STUDIES   I    .7  I    .7  I  26.5  I   6.8   I  63.3   I   2.0   I   45.2
                  I 100.0  I  50.0  I  42.9  I  35.7   I  46.7   I  75.0   I
                  I    .3  I    .3  I  12.0  I   3.1   I  28.6   I    .9   I
                 -I--------I--------I--------I---------I---------I---------I
              2.  I     0  I     1  I    22  I     9   I    33   I     0   I     65
 SCIENCE          I    .0  I   1.5  I  33.8  I  13.8   I  50.8   I    .0   I   20.0
                  I    .0  I  50.0  I  24.2  I  32.1   I  16.6   I    .0   I
                  I    .0  I    .3  I   6.8  I   2.8   I  10.2   I    .0   I
                 -I--------I--------I--------I---------I---------I---------I
              3.  I     0  I     0  I    30  I     9   I    73   I     1   I    113
 PSYCHOLOGY       I    .0  I    .0  I  26.5  I   8.0   I  64.6   I    .9   I   34.8
                  I    .0  I    .0  I  33.0  I  32.1   I  36.7   I  25.0   I
                  I    .0  I    .0  I   9.2  I   2.8   I  22.5   I    .3   I
                 -I--------I--------I--------I---------I---------I---------I
           COLUMN       1        2       91        28        199         4       325
           TOTAL       .3       .6     28.0       8.6       61.2       1.2     100.0
CHI SQUARE =       9.65297 WITH  10 DEGREES OF FREEDOM   SIGNIFICANCE =   .4714

NUMBER OF MISSING OBSERVATIONS =        6

- - -   - -   - - - - - - - -   - -   -   - -                     -
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* * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * *
    X104       AREA OF CERTIFICATION                                  BY  X31          INTELLIGENCE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                 X31
          COUNT   I
        ROW PCT  INO        YES         ROW
        COL PCT  I                      TOTAL
        TOT PCT  I      0.I      1.I
X104    --------I--------I--------I
             1. I    30  I   119  I    149
 SOCIAL STUDIES I  20.1  I  79.9  I   45.4
                I  42.9  I  46.1  I
                I   9.1  I  36.3  I
               -I--------I--------I
             2. I    11  I    54  I     65
 SCIENCE        I  16.9  I  83.1  I   19.8
                I  15.7  I  20.9  I
                I   3.4  I  16.5  I
               -I--------I--------I
             3. I    29  I    85  I    114
 PSYCHOLOGY     I  25.4  I  74.6  I   34.8
                I  41.4  I  32.9  I
                I   8.8  I  25.9  I
               -I--------I--------I
         COLUMN      70      258       328
          TOTAL    21.3     78.7     100.0

CHI SQUARE =      2.02525 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .3633

NUMBER OF MISSING OBSERVATIONS =          3
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* * * * * * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * * *
  X104       AREA OF CERTIFICATION                                      BY  X32        PERSONALITY THEORY
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                X32
          COUNT  I
        ROW PCT  INO        YES          ROW
        COL PCT  I                       TOTAL
        TOT PCT  I      0.I       1.I
X104     --------I--------I--------I
             1.  I     5  I   144  I    149
  SOCIAL STUDIES I   3.4  I  96.6  I   45.4
                 I  21.7  I  47.2  I
                 I   1.5  I  43.9  I
                -I--------I--------I
             2.  I     5  I    60  I     65
  SCIENCE        I   7.7  I  92.3  I   19.8
                 I  21.7  I  19.7  I
                 I   1.5  I  18.3  I
                -I--------I--------I
             3.  I    13  I   101  I    114
  PSYCHOLOGY     I  11.4  I  88.6  I   34.8
                 I  56.5  I  33.1  I
                 I   4.0  I  30.8  I
                -I--------I--------I
          COLUMN      23      305       328
           TOTAL     7.0     93.0     100.0
CHI SQUARE =     6.47271 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0393

NUMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * * *
   X104       AREA OF CERTIFICATION                                     BY  X33        HISTORY OF PSYCHOLOGY
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

               X33
        COUNT  I
      ROW PCT  INO          YES         ROW
      COL PCT  I                        TOTAL
      TOT PCT  I        0.I        1.I
X104   --------I---------I---------I
           1.  I     71  I     78  I     149
 SOCIAL STUDIES I   47.7  I   52.3  I    45.4
               I   47.3  I   43.8  I
               I   21.6  I   23.8  I
              -I---------I---------I
           2.  I     28  I     37  I      65
 SCIENCE       I   43.1  I   56.9  I    19.8
               I   18.7  I   20.8  I
               I    8.5  I   11.3  I
              -I---------I---------I
           3.  I     51  I     63  I     114
 PSYCHOLOGY    I   44.7  I   55.3  I    34.8
               I   34.0  I   35.4  I
               I   15.5  I   19.2  I
              -I---------I---------I
       COLUMN       150       178        328
        TOTAL      45.7      54.3      100.0
CHI SQUARE =       .45122 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .7980

NUMBER OF MISSING OBSERVATIONS =        3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                  BY  X34          MOTIVATION
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                   X34
         COUNT    I
       ROW PCT    INO          YES          ROW
       COL PCT    I                         TOTAL
       TOT PCT    I       0.I         1.I
X104    --------I---------I---------I
            1.  I    36   I   113   I    149
 SOCIAL STUDIES I  24.2   I  75.8   I   45.4
                I  43.4   I  46.1   I
                I  11.0   I  34.5   I
               -I---------I---------I
            2.  I    19   I    46   I     65
 SCIENCE        I  29.2   I  70.8   I   19.8
                I  22.9   I  18.8   I
                I   5.8   I  14.0   I
               -I---------I---------I
            3.  I    28   I    86   I    114
 PSYCHOLOGY     I  24.6   I  75.4   I   34.8
                I  33.7   I  35.1   I
                I   8.5   I  26.2   I
               -I---------I---------I
         COLUMN      83        245       328
          TOTAL    25.3       74.7     100.0
CHI SQUARE =       .66649 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .7166

NUMBER OF MISSING OBSERVATIONS =         3
- - -      - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -  - -
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * *
   X104       AREA OF CERTIFICATION                                   BY  X35        EMOTIONF
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  10

                     X35
             COUNT   I
           ROW PCT   INO          YES          ROW
           COL PCT   I                         TOTAL
           TOT PCT   I        0.I       1.I
X104         --------I--------I--------I
                1.   I    28  I   121  I    149
  SOCIAL STUDIES     I  18.8  I  81.2  I   45.4
                     I  52.8  I  44.0  I
                     I   8.5  I  36.9  I
                    -I--------I--------I
                2.   I     7  I    58  I     65
  SCIENCE            I  10.8  I  89.2  I   19.8
                     I  13.2  I  21.1  I
                     I   2.1  I  17.7  I
                    -I--------I--------I
                3.   I    18  I    96  I    114
  PSYCHOLOGY         I  15.8  I  84.2  I   34.8
                     I  34.0  I  34.9  I
                     I   5.5  I  29.3  I
                    -I--------I--------I
            COLUMN        53      275       328
             TOTAL      16.2     83.8     100.0
CHI SQUARE =      2.16771 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .3383

NUMBER OF MISSING OBSERVATIONS =         3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * *
  X104      AREA OF CERTIFICATION                                     BY  X36             MENTAL ILLNESS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                     X36
         COUNT    I
       ROW PCT   INO          YES          ROW
       COL PCT    I                        TOTAL
       TOT PCT    I         0.I       1.I
104     --------- I---------I---------I
             1.   I    24   I   125   I    149
 SOCIAL STUDIES   I  16.1   I  83.9   I   45.4
                  I  51.1   I  44.5   I
                  I   7.3   I  38.1   I
                 -I---------I---------I
             2.   I    14   I    51   I     65
 SCIENCE          I  21.5   I  78.5   I   19.8
                  I  29.8   I  18.1   I
                  I   4.3   I  15.5   I
                 -I---------I---------I
             3.   I     9   I   105   I    114
 PSYCHOLOGY       I   7.9   I  92.1   I   34.8
                  I  19.1   I  37.4   I
                  I   2.7   I  32.0   I
                 -I---------I---------I
         COLUMN        47       281        328
          TOTAL      14.3      85.7      100.0
HI SQUARE =      6.98051 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0305

UMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * * * *
  X109       AREA OF CERTIFICATION                                      BY  X37         MENTAL HEALTH
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                  X37
          COUNT   I
        ROW PCT   INO         YES         ROW
        COL PCT   I                       TOTAL
        TOT PCT   I        0.I        1.I
X109      --------I--------I--------I
             1.   I    26  I   123  I    149
  SOCIAL STUDIES  I  17.4  I  82.6  I   45.4
                  I  43.3  I  45.9  I
                  I   7.9  I  37.5  I
                 -I--------I--------I
             2.   I    15  I    50  I     65
  SCIENCE         I  23.1  I  76.9  I   19.8
                  I  25.0  I  18.7  I
                  I   4.6  I  15.2  I
                 -I--------I--------I
             3.   I    19  I    95  I    114
  PSYCHOLOGY      I  16.7  I  83.3  I   34.8
                  I  31.7  I  35.4  I
                  I   5.8  I  29.0  I
                 -I--------I--------I
         COLUMN       60      268        328
          TOTAL     18.3     81.7      100.0

CHI SQUARE =      1.26791 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .5305

NUMBER OF MISSING OBSERVATIONS =         3
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* * * * * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * *
   X104        AREA OF CERTIFICATION                                 BY  X38          MENTAL RETARD               ATION
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * PAGE  1 OF

                        X38
             COUNT    I
           ROW PCT    INO          YES          ROW
           COL PCT    I                         TOTAL
           TOT PCT    I        0.I         1.I
X104       --------I--------I--------I
                1.    I     64  I     85  I     149
  SOCIAL STUDIES      I   43.0  I   57.0  I    45.4
                      I   49.6  I   42.7  I
                      I   19.5  I   25.9  I
                    -I--------I--------I
                2.    I     29  I     36  I      65
  SCIENCE             I   44.6  I   55.4  I    19.8
                      I   22.5  I   18.1  I
                      I    8.8  I   11.0  I
                    -I--------I--------I
                3.    I     36  I     78  I     114
  PSYCHOLOGY          I   31.6  I   68.4  I    34.8
                      I   27.9  I   39.2  I
                      I   11.0  I   23.8  I
                    -I--------I--------I
            COLUMN         129        199       328
             TOTAL        39.3       60.7     100.0

CHI SQUARE =      4.45096 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .1080

NUMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                       BY  X39          STATISTICS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                       X39
           COUNT    I
           ROW PCT  INO          YES
           COL PCT  I                          ROW
           TOT PCT  I                          TOTAL
X104                I        0.I         1.I
           ---------I--------I--------I
                 1. I    121  I     28  I    149
  SOCIAL STUDIES    I   81.2  I   18.8  I   45.4
                    I   47.1  I   39.4  I
                    I   36.9  I    8.5  I
                   -I---------I---------I
                 2. I     48  I     17  I     65
  SCIENCE           I   73.8  I   26.2  I   19.8
                    I   18.7  I   23.9  I
                    I   14.6  I    5.2  I
                   -I---------I---------I
                 3. I     88  I     26  I    114
  PSYCHOLOGY        I   77.2  I   22.8  I   34.8
                    I   34.2  I   36.6  I
                    I   26.8  I    7.9  I
                   -I---------I---------I
            COLUMN       257        71       328
            TOTAL       78.4      21.6     100.0
CHI SQUARE =      1.58496 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .4527
NUMBER OF MISSING OBSERVATIONS =       3
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 * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * *
   X104       AREA OF CERTIFICATION                            BY  X40         LEARNING THEORIES
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                    X40
          COU[illegible] I
          ROW [illegible] INO          YES           ROW
          COL [illegible] I                          TOTAL
          TOT [illegible] I        0.I        1.I
 104      ----[illegible]-I--------I--------I
               [illegible]I     24  I    125  I     149
  SOCIAL STUDIES   I   16.1  I   83.9  I    45.4
                   I   34.8  I   48.3  I
                   I    7.3  I   38.1  I
                  -I--------I--------I
               2.  I     17  I     48  I      65
  SCIENCE          I   26.2  I   73.8  I    19.8
                   I   24.6  I   18.5  I
                   I    5.2  I   14.6  I
                  -I--------I--------I
               3.  I     28  I     86  I     114
  PSYCHOLOGY       I   24.6  I   75.4  I    34.8
                   I   40.6  I   33.2  I
                   I    8.5  I   26.2  I
                  -I--------I--------I
          COLUMN        69       259        328
           TOTAL      21.0      79.0      100.0
CHI SQUARE =     4.05675 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .1315
NUMBER OF MISSING OBSERVATIONS =        3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                      BY  X41      HUMAN BODY
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                     X41
            COUNT   I
           ROW PCT  INO          YES            ROW
           COL PCT  I                          TOTAL
           TOT PCT  I          0.I          1.I
X104       --------I---------I---------I
               1.  I     98  I     51  I     149
  SOCIAL STUDIES   I   65.8  I   34.2  I    45.4
                   I   46.7  I   43.2  I
                   I   29.9  I   15.5  I
                  -I---------I---------I
               2.  I     42  I     23  I      65
  SCIENCE          I   64.6  I   35.4  I    19.8
                   I   20.0  I   19.5  I
                   I   12.8  I    7.0  I
                  -I---------I---------I
               3.  I     70  I     44  I     114
  PSYCHOLOGY       I   61.4  I   38.6  I    34.8
                   I   33.3  I   37.3  I
                   I   21.3  I   13.4  I
                  -I---------I---------I
            COLUMN       210       118       328
            TOTAL       64.0      36.0     100.0
CHI SQUARE =       .54736 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .7606

NUMBER OF MISSING OBSERVATIONS =          3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * *
    X109      AREA OF CERTIFICATION                        BY  X42        HEREDITY AND GENETICS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 O
                         X42
           COUNT   I
          ROW PCT  INO          YES
          COL PCT  I                         ROW
          TOT PCT  I                         TOTAL
X109      ---------I--------I--------I
                1. I      91I      58I
  SOCIAL STUDIES   I    61.1I    38.9I       149
                   I    50.8I    38.9I       45.4
                   I    27.7I    17.7I
                  -I--------I--------I
                2. I      35I      30I
  SCIENCE          I    53.8I    46.2I        65
                   I    19.6I    20.1I       19.8
                   I    10.7I     9.1I
                  -I--------I--------I
                3. I      53I      61I
  PSYCHOLOGY       I    46.5I    53.5I       114
                   I    29.6I    40.9I       34.8
                   I    16.2I    18.6I
                  -I--------I--------I
           COLUMN       179      149         328
           TOTAL        54.6     45.4      100.0
CHI SQUARE =     5.55733 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .0621
NUMBER OF MISSING OBSERVATIONS =        3
- - -       - - - - - - - - - - - - - - - - - - - - - - - - - -   - - - -
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * *
    X104       AREA OF CERTIFICATION                                   BY  X43        HUMAN GROWTH AND DEVELOPMENT
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * PAGE  1 OF

                    X43
          COUNT    I
          ROW PCT  INO        YES        ROW
          COL PCT  I                     TOTAL
          TOT PCT  I       0.I      1.I
X104      ---------I--------I--------I
             1.    I    44  I   105  I    149
  SOCIAL STUDIES   I  29.5  I  70.5  I   45.4
                   I  44.4  I  45.9  I
                   I  13.4  I  32.0  I
                  -I--------I--------I
             2.    I    24  I    41  I     65
  SCIENCE          I  36.9  I  63.1  I   19.8
                   I  24.2  I  17.9  I
                   I   7.3  I  12.5  I
                  -I--------I--------I
             3.    I    31  I    83  I    114
  PSYCHOLOGY       I  27.2  I  72.8  I   34.8
                   I  31.3  I  36.2  I
                   I   9.5  I  25.3  I
                  -I--------I--------I
          COLUMN       99      229        328
           TOTAL     30.2     69.8      100.0
CHI SQUARE =      1.91504 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .3838

NUMBER OF MISSING OBSERVATIONS =        3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                    BY  X44         THE ADOLESCENT
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                 X44
         COUNT   I
       ROW PCT   INO         YES          ROW
       COL PCT   I                        TOTAL
       TOT PCT   I       0.I        1.I
X104   --------I--------I--------I
            1.  I    48   I   101   I    149
  SOCIAL STUDIES I  32.2   I  67.8   I   45.4
                I  42.9   I  46.8   I
                I  14.6   I  30.8   I
               -I--------I--------I
            2.  I    28   I    37   I     65
  SCIENCE       I  43.1   I  56.9   I   19.8
                I  25.0   I  17.1   I
                I   8.5   I  11.3   I
               -I--------I--------I
            3.  I    36   I    78   I    114
  PSYCHOLOGY    I  31.6   I  68.4   I   34.8
                I  32.1   I  36.1   I
                I  11.0   I  23.8   I
               -I--------I--------I
        COLUMN     112       216        328
         TOTAL     34.1      65.9      100.0

CHI SQUARE =      2.88680 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .2361

NUMBER OF MISSING OBSERVATIONS =        3

- -     - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * * *
  X104      AREA OF CERTIFICATION                          BY  X45              SENSATIONS AND PERCEPTION   PAGE  1 OF
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

                    X45
          COUNT    I
          ROW PCT  INO          YES          ROW
          COL PCT  I                         TOTAL
          TOT PCT  I        0.I        1.I
X104      --------I--------I--------I
               1.  I    53  I    96  I     149
 SOCIAL STUDIES    I  35.6  I  64.4  I    45.4
                   I  46.1  I  45.1  I
                   I  16.2  I  29.3  I
                  -I--------I--------I
               2.  I    26  I    39  I      65
 SCIENCE           I  40.0  I  60.0  I    19.8
                   I  22.6  I  18.3  I
                   I   7.9  I  11.9  I
                  -I--------I--------I
               3.  I    36  I    78  I     114
 PSYCHOLOGY        I  31.6  I  68.4  I    34.8
                   I  31.3  I  36.6  I
                   I  11.0  I  23.8  I
                  -I--------I--------I
           COLUMN       115      213        328
           TOTAL       35.1     64.9      100.0
CHI SQUARE =     1.32047 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .5167
NUMBER OF MISSING OBSERVATIONS =        3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                   BY  X46         SOCIAL BEHAVIOR
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                   X46
          COUNT   I
         ROW PCT  INO          YES          ROW
         COL PCT  I                         TOTAL
         TOT PCT  I        0.I        1.I
X104     --------I--------I--------I
              1.  I    61  I    88  I    149
  SOCIAL STUDIES  I  40.9  I  59.1  I   45.4
                  I  53.5  I  41.1  I
                  I  18.6  I  26.8  I
                 -I--------I--------I
              2.  I    20  I    45  I     65
  SCIENCE         I  30.8  I  69.2  I   19.8
                  I  17.5  I  21.0  I
                  I   6.1  I  13.7  I
                 -I--------I--------I
              3.  I    33  I    81  I    114
  PSYCHOLOGY      I  28.9  I  71.1  I   34.8
                  I  28.9  I  37.9  I
                  I  10.1  I  24.7  I
                 -I--------I--------I
          COLUMN      114      214       328
           TOTAL     34.8     65.2     100.0

CHI SQUARE =     4.66427 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0971

NUMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * * * *
   X109      AREA OF CERTIFICATION                                   BY  X47         CHILD CARE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                   X47
          COUNT   I
        ROW PCT   INO         YES          ROW
        COL PCT   I                        TOTAL
        TOT PCT   I        0.I         1.I
X109      --------I--------I--------I
             1.   I   105  I    44  I    149
  SOCIAL STUDIES  I  70.5  I  29.5  I   45.4
                  I  47.3  I  41.5  I
                  I  32.0  I  13.4  I
                 -I--------I--------I
             2.   I    45  I    20  I     65
  SCIENCE         I  69.2  I  30.8  I   19.8
                  I  20.3  I  18.9  I
                  I  13.7  I   6.1  I
                 -I--------I--------I
             3.   I    72  I    42  I    114
  PSYCHOLOGY      I  63.2  I  36.8  I   34.8
                  I  32.4  I  39.6  I
                  I  22.0  I  12.8  I
                 -I--------I--------I
         COLUMN       222       106      328
          TOTAL      67.7      32.3    100.0
CHI SQUARE =      1.66744 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .4344

NUMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * *
X109     AREA OF CERTIFICATION  * * * * * * * * * * * * * * * * BY  X48    MARRIAGE AND THE FAMILY * * * * * * * *   PAGE  1 OF
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

                        X48
              COUNT    I
              ROW PCT  INO         YES          ROW
              COL PCT  I                        TOTAL
              TOT PCT  I       0.I        1.I
X109          ---------I---------I---------I
                   1.  I    97   I    52   I    149
  SOCIAL STUDIES       I  65.1   I  34.9   I   45.4
                       I  49.5   I  39.4   I
                       I  29.6   I  15.9   I
                      -I---------I---------I
                   2.  I    35   I    30   I     65
  SCIENCE              I  53.8   I  46.2   I   19.8
                       I  17.9   I  22.7   I
                       I  10.7   I   9.1   I
                      -I---------I---------I
                   3.  I    64   I    50   I    114
  PSYCHOLOGY           I  56.1   I  43.9   I   34.8
                       I  32.7   I  37.9   I
                       I  19.5   I  15.2   I
                      -I---------I---------I
                COLUMN     196       132        328
                TOTAL     59.8      40.2      100.0

CHI SQUARE =      3.33363 WITH   2 DEGREES OF FREEDOM    SIGNIFICANCE =     .1888

NUMBER OF MISSING OBSERVATIONS =          3
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* * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * *
X104     AREA OF CERTIFICATION                                BY  X49        DRUGS, ALCOHOLISM
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                     X49
          COUNT   I
        ROW PCT   INO          YES
        COL PCT   I                         ROW
        TOT PCT   I                         TOTAL
X104              I       0.I        1.I
        --------  I---------I---------I
              1.  I    84   I     65  I     149
  SOCIAL STUDIES  I   56.4  I   43.6  I    45.4
                  I   52.2  I   38.9  I
                  I   25.6  I   19.8  I
                 -I---------I---------I
              2.  I    33   I     32  I      65
  SCIENCE         I   50.8  I   49.2  I    19.8
                  I   20.5  I   19.2  I
                  I   10.1  I    9.8  I
                 -I---------I---------I
              3.  I    44   I     70  I     114
  PSYCHOLOGY      I   38.6  I   61.4  I    34.8
                  I   27.3  I   41.9  I
                  I   13.4  I   21.3  I
                 -I---------I---------I
          COLUMN      161       167         328
           TOTAL      49.1      50.9       100.0
CHI SQUARE =      8.26104 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0161
NUMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                  BY  X50        LOVE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                  X50
          COUNT   I
        ROW PCT  INO        YES          ROW
        COL PCT   I                      TOTAL
        TOT PCT   I      0.I       1.I
X104      --------I--------I--------I
              1.  I    88  I    61  I    149
  SOCIAL STUDIES  I  59.1  I  40.9  I   45.4
                  I  49.7  I  40.4  I
                  I  26.8  I  18.6  I
                 -I--------I--------I
              2.  I    34  I    31  I     65
  SCIENCE         I  52.3  I  47.7  I   19.8
                  I  19.2  I  20.5  I
                  I  10.4  I   9.5  I
                 -I--------I--------I
              3.  I    55  I    59  I    114
  PSYCHOLOGY      I  48.2  I  51.8  I   34.8
                  I  31.1  I  39.1  I
                  I  16.8  I  18.0  I
                 -I--------I--------I
          COLUMN     177      151        328
           TOTAL    54.0     46.0      100.0
CHI SQUARE =      3.13012 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .2091

NUMBER OF MISSING OBSERVATIONS =        3
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* * * *      * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * *
   X104        AREA OF CERTIFICATION                                 BY  X51          PARAPSYCHOLOGY
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                    X51
            COUNT  I
          ROW PCT  INO        YES         ROW
          COL PCT  I                      TOTAL
          TOT PCT  I       0.I       1.I
X104      ---------I--------I--------I
               1.  I   59   I   90   I   149
  SOCIAL STUDIES   I  39.6  I  60.4  I   45.4
                   I  47.6  I  44.1  I
                   I  18.0  I  27.4  I
                  -I--------I--------I
               2.  I   24   I   41   I    65
  SCIENCE          I  36.9  I  63.1  I   19.8
                   I  19.4  I  20.1  I
                   I   7.3  I  12.5  I
                  -I--------I--------I
               3.  I   41   I   73   I   114
  PSYCHOLOGY       I  36.0  I  64.0  I   34.8
                   I  33.1  I  35.8  I
                   I  12.5  I  22.3  I
                  -I--------I--------I
           COLUMN     124      204       328
            TOTAL     37.8     62.2     100.0
CHI SQUARE =        .38923 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .8231

NUMBER OF MISSING OBSERVATIONS =        3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * * *
    X104       AREA OF CERTIFICATION                                    BY  X52          ABNORMAL BEHAVIOR
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * PAGE  1 OF

                    X52
          COUNT   I
          ROW PCT INO          YES          ROW
          COL PCT I                         TOTAL
          TOT PCT I        0.I        1.I
X104      --------I---------I---------I
                1.  I    33   I   116   I    149
  SOCIAL STUDIES  I   22.1  I   77.9  I   45.4
                  I   49.3  I   44.4  I
                  I   10.1  I   35.4  I
                 -I---------I---------I
                2.  I    18   I    47   I     65
  SCIENCE         I   27.7  I   72.3  I   19.8
                  I   26.9  I   18.0  I
                  I    5.5  I   14.3  I
                 -I---------I---------I
                3.  I    16   I    98   I    114
  PSYCHOLOGY      I   14.0  I   86.0  I   34.8
                  I   23.9  I   37.5  I
                  I    4.9  I   29.9  I
                 -I---------I---------I
          COLUMN      67        261        328
          TOTAL      20.4      79.6      100.0
CHI SQUARE =      5.24772 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0725
NUMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * *
    X104       AREA OF CERTIFICATION
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * BY X53      STATE-ADOPTED TEXTBOOKS * * * * * *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * PAGE 1 OF

                      X53
            COUNT   I
          ROW PCT   IYES        NO          ROW
          COL PCT   I                       TOTAL
          TOT PCT   I        1.I        2.I
X104        --------I--------I--------I
                 1. I     19  I    106  I    125
 SOCIAL STUDIES     I   15.2  I   84.8  I   46.5
                    I   44.2  I   46.9  I
                    I    7.1  I   39.4  I
                   -I---------I---------I
                 2. I      6  I     44  I     50
 SCIENCE            I   12.0  I   88.0  I   18.6
                    I   14.0  I   19.5  I
                    I    2.2  I   16.4  I
                   -I---------I---------I
                 3. I     18  I     76  I     94
 PSYCHOLOGY         I   19.1  I   80.9  I   34.9
                    I   41.9  I   33.6  I
                    I    6.7  I   28.3  I
                   -I---------I---------I
           COLUMN         43       226       269
           TOTAL        16.0      84.0     100.0
CHI SQUARE =      1.34925 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .5093
NUMBER OF MISSING OBSERVATIONS =       42
- - - -    - - - - - - - - - - -   - - - - - - - - -   - - - - - - - -   - - - - -
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* * * * * * *   * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                      BY  X54          ITS PRINCIPLES AND APPLICATIONS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                      X54
           COUNT    I
         ROW PCT   INO         YES          ROW
         COL PCT   I                        TOTAL
         TOT PCT   I        0.I         1.I
X104     --------I---------I---------I
              1.  I    97   I    52   I    149
  SOCIAL STUDIES  I  65.1   I  34.9   I   45.4
                  I  46.0   I  44.4   I
                  I  29.6   I  15.9   I
                 -I---------I---------I
              2.  I    40   I    25   I     65
  SCIENCE         I  61.5   I  38.5   I   19.8
                  I  19.0   I  21.4   I
                  I  12.2   I   7.6   I
                 -I---------I---------I
              3.  I    74   I    40   I    114
  PSYCHOLOGY      I  64.9   I  35.1   I   34.8
                  I  35.1   I  34.2   I
                  I  22.6   I  12.2   I
                 -I---------I---------I
          COLUMN      211       117        328
           TOTAL     64.3      35.7      100.0
CHI SQUARE =       .27615 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .8710

NUMBER OF MISSING OBSERVATIONS =        3

                    - -   - -   - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * *
     X109        AREA OF CERTIFICATION                                 BY X55     UNDERSTANDING OURSELVES AND OTHERS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                 X55
        COUNT   I
        ROW PCT INO          YES
        COL PCT I                           ROW
        TOT PCT I                           TOTAL
X109    --------I--------0.I--------1.I
                1.  I     129  I      20  I
  SOCIAL STUDIES    I    86.6  I    13.4  I     149
                    I    44.8  I    50.0  I    45.4
                    I    39.3  I     6.1  I
                   -I----------I----------I
                2.  I      55  I      10  I
  SCIENCE           I    84.6  I    15.4  I      65
                    I    19.1  I    25.0  I    19.8
                    I    16.8  I     3.0  I
                   -I----------I----------I
                3.  I     104  I      10  I
  PSYCHOLOGY        I    91.2  I     8.8  I     114
                    I    36.1  I    25.0  I    34.8
                    I    31.7  I     3.0  I
                   -I----------I----------I
           COLUMN         288         40        328
           TOTAL         87.8       12.2      100.0
CHI SQUARE =      2.07482 WITH   2 DEGREES OF FREEDOM    SIGNIFICANCE =   .3544
NUMBER OF MISSING OBSERVATIONS =          3
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* * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * * *
   X109      AREA OF CERTIFICATION                                BY  X56      UNDERSTANDING PSYCHOLOGY
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                   X56
           COUNT  I
         ROW PCT  INO          YES           ROW
         COL PCT  I                          TOTAL
         TOT PCT  I        0.I        1.I
X109     --------I--------I--------I
              1.  I   117  I    32  I     149
  SOCIAL STUDIES  I  78.5  I  21.5  I    45.4
                  I  44.5  I  49.2  I
                  I  35.7  I   9.8  I
                 -I--------I--------I
              2.  I    56  I     9  I      65
  SCIENCE         I  86.2  I  13.8  I    19.8
                  I  21.3  I  13.8  I
                  I  17.1  I   2.7  I
                 -I--------I--------I
              3.  I    90  I    24  I     114
  PSYCHOLOGY      I  78.9  I  21.1  I    34.8
                  I  34.2  I  36.9  I
                  I  27.4  I   7.3  I
                 -I--------I--------I
          COLUMN     263       65        328
           TOTAL    80.2     19.8      100.0
CHI SQUARE =      1.82613 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .4013
NUMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                               BY  X57         LIVING PSYCHOLOGY
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                  X57
         COUNT   I
       ROW PCT   INO          YES          ROW
       COL PCT   I                         TOTAL
       TOT PCT   I        0.I        1.I
X104    ---------I--------I--------I
            1.   I   139   I    10   I    149
  SOCIAL STUDIES I   93.3  I    6.7  I   45.4
                 I   44.8  I   55.6  I
                 I   42.4  I    3.0  I
                -I--------I--------I
            2.   I    62   I     3   I     65
  SCIENCE        I   95.4  I    4.6  I   19.8
                 I   20.0  I   16.7  I
                 I   18.9  I     .9  I
                -I--------I--------I
            3.   I   109   I     5   I    114
  PSYCHOLOGY     I   95.6  I    4.4  I   34.8
                 I   35.2  I   27.8  I
                 I   33.2  I    1.5  I
                -I--------I--------I
        COLUMN       310        18        328
         TOTAL       94.5       5.5      100.0
CHI SQUARE =      .79234 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .6729

NUMBER OF MISSING OBSERVATIONS =        3
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                                                                            PSYCHOLOGY MCKEACHIE AND DOYLE
* * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * *
  X104       AREA OF CERTIFICATION                      BY  X58                                PAGE  1 OF
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

                       X58
           COUNT   I
         ROW PCT   INO               YES           ROW
         COL PCT   I                                TOTAL
         TOT PCT   I          0.I          1.I
        -----------I---------I----------I
X104                I    148   I     1      I     149
                1.  I   99.3   I    .7      I    45.4
  SOCIAL STUDIES    I   45.4   I   50.0     I
                    I   45.1   I    .3      I
                   -I---------I----------I
                    I     65   I     0      I      65
                2.  I  100.0   I    .0      I    19.8
  SCIENCE           I   19.9   I    .0      I
                    I   19.8   I    .0      I
                   -I---------I----------I
                    I    113   I     1      I     114
                3.  I   99.1   I    .9      I    34.8
  PSYCHOLOGY        I   34.7   I   50.0     I
                    I   34.5   I    .3      I
                   -I---------I----------I
          COLUMN         326          2           328
          TOTAL         99.4         .6         100.0

CHI SQUARE =      .54258 WITH    2 DEGREES OF FREEDOM    SIGNIFICANCE =    .7624
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
NUMBER OF MISSING OBSERVATIONS =           3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * *
   X109      AREA OF CERTIFICATION                                    BY  X59        INTR. TO THE BEHAVIORAL SCIENCES
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                         X59
               COUNT   I
             ROW PCT   INO          YES            ROW
             COL PCT   I                           TOTAL
             TOT PCT   I        0.I        1.I
X109           --------I---------I---------I
                    1. I    145  I       4  I    149
  SOCIAL STUDIES       I   97.3  I     2.7  I   45.4
                       I   45.2  I    57.1  I
                       I   44.2  I     1.2  I
                      -I---------I---------I
                    2. I     64  I       1  I     65
  SCIENCE              I   98.5  I     1.5  I   19.8
                       I   19.9  I    14.3  I
                       I   19.5  I      .3  I
                      -I---------I---------I
                    3. I    112  I       2  I    114
  PSYCHOLOGY           I   98.2  I     1.8  I   34.8
                       I   34.9  I    28.6  I
                       I   34.1  I      .6  I
                      -I---------I---------I
              COLUMN        321          7       328
               TOTAL       97.9        2.1     100.0
CHI SQUARE =        .40528 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .8166
NUMBER OF MISSING OBSERVATIONS =          3
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* * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * *
   X109      AREA OF CERTIFICATION                                BY  X60       PSYCHOLOGY TODAY
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                     X60
           COUNT   I
         ROW PCT  INO          YES           ROW
         COL PCT  I                          TOTAL
         TOT PCT  I         0.I        1.I
X109      --------I---------I---------I
              1.  I   141   I     8   I    149
  SOCIAL STUDIES  I   94.6  I    5.4  I   45.4
                  I   45.0  I   53.3  I
                  I   43.0  I    2.4  I
                 -I---------I---------I
              2.  I    63   I     2   I     65
  SCIENCE         I   96.9  I    3.1  I   19.8
                  I   20.1  I   13.3  I
                  I   19.2  I     .6  I
                 -I---------I---------I
              3.  I   109   I     5   I    114
  PSYCHOLOGY      I   95.6  I    4.4  I   34.8
                  I   34.8  I   33.3  I
                  I   33.2  I    1.5  I
                 -I---------I---------I
          COLUMN      313        15        328
           TOTAL      95.4       4.6      100.0

CHI SQUARE =        .55892 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .7562

NUMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                  BY  X61          PSYCHOLOGY FOR YOU
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                  X61
          COUNT  I
        ROW PCT  INO        YES          ROW
        COL PCT  I                       TOTAL
        TOT PCT  I        0.I        1.I
X104     --------I---------I---------I
             1.  I   133   I     16  I   149
  SOCIAL STUDIES I   89.3  I   10.7  I   45.4
                 I   43.8  I   66.7  I
                 I   40.5  I    4.9  I
                -I---------I---------I
             2.  I    61   I      4  I    65
  SCIENCE        I   93.8  I    6.2  I   19.8
                 I   20.1  I   16.7  I
                 I   18.6  I    1.2  I
                -I---------I---------I
             3.  I   110   I      4  I   114
  PSYCHOLOGY     I   96.5  I    3.5  I   34.8
                 I   36.2  I   16.7  I
                 I   33.5  I    1.2  I
                -I---------I---------I
         COLUMN      304        24       328
          TOTAL      92.7       7.3     100.0
CHI SQUARE =      5.13926 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0766
NUMBER OF MISSING OBSERVATIONS =        3
                                     - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

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* * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                              BY  X62        PSYCHOLOGY FOR LIVING
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                    X62
          COUNT   I
         ROW PCT  INO        YES          ROW
         COL PCT  I                       TOTAL
         TOT PCT  I        0.I       1.I
X104     ---------I--------I--------I
              1.  I   144  I     5  I     149
  SOCIAL STUDIES  I  96.6  I   3.4  I    45.4
                  I  46.2  I  31.3  I
                  I  43.9  I   1.5  I
                 -I--------I--------I
              2.  I    60  I     5  I      65
  SCIENCE         I  92.3  I   7.7  I    19.8
                  I  19.2  I  31.3  I
                  I  18.3  I   1.5  I
                 -I--------I--------I
              3.  I   108  I     6  I     114
  PSYCHOLOGY      I  94.7  I   5.3  I    34.8
                  I  34.6  I  37.5  I
                  I  32.9  I   1.8  I
                 -I--------I--------I
          COLUMN      312       16        328
           TOTAL     95.1      4.9      100.0
CHI SQUARE =      1.89010 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .3887
NUMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * *
   X104        AREA OF CERTIFICATION                                   BY  X64        EXTENT USING TEXTBOOK
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1

                   X64
           COUNT  I
           ROW PCT INEVER US USED OCC USED OFT USED GRE   ROW
           COL PCT IED       ASION    EN       AT DEAL   TOTAL
           TOT PCT I      1.I      2.I      3.I      4.I
X104       --------I--------I--------I--------I--------I
                1. I     1  I    18  I    62  I    61  I   142
  SOCIAL STUDIES   I    .7  I  12.7  I  43.7  I  43.0  I  46.0
                   I  16.7  I  30.0  I  53.4  I  48.0  I
                   I    .3  I   5.8  I  20.1  I  19.7  I
                  -I--------I--------I--------I--------I
                2. I     3  I    17  I    21  I    20  I    61
  SCIENCE          I   4.9  I  27.9  I  34.4  I  32.8  I  19.7
                   I  50.0  I  28.3  I  18.1  I  15.7  I
                   I   1.0  I   5.5  I   6.8  I   6.5  I
                  -I--------I--------I--------I--------I
                3. I     2  I    25  I    33  I    46  I   106
  PSYCHOLOGY       I   1.9  I  23.6  I  31.1  I  43.4  I  34.3
                   I  33.3  I  41.7  I  28.4  I  36.2  I
                   I    .6  I   8.1  I  10.7  I  14.9  I
                  -I--------I--------I--------I--------I
            COLUMN       6       60      116      127      309
             TOTAL     1.9     19.4     37.5     41.1    100.0
CHI SQUARE =     14.43541 WITH   6 DEGREES OF FREEDOM   SIGNIFICANCE =   .0251
NUMBER OF MISSING OBSERVATIONS =       22
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* * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * *
X104        AREA OF CERTIFICATION                                      BY  X65       USED FOR RELEVANT READING MATERIAL
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                 X65
        COUNT   I
      ROW PCT   INO          YES          ROW
      COL PCT   I                         TOTAL
      TOT PCT   I        0.I        1.I
4     --------I--------I--------I
           1.  I   139  I    10  I    149
OCIAL STUDIES  I  93.3  I   6.7  I   45.4
               I  45.3  I  47.6  I
               I  42.4  I   3.0  I
              -I--------I--------I
           2.  I    62  I     3  I     65
CIENCE         I  95.4  I   4.6  I   19.8
               I  20.2  I  14.3  I
               I  18.9  I    .9  I
              -I--------I--------I
           3.  I   106  I     8  I    114
SYCHOLOGY      I  93.0  I   7.0  I   34.8
               I  34.5  I  38.1  I
               I  32.3  I   2.4  I
              -I--------I--------I
       COLUMN      307        21       328
        TOTAL     93.6       6.4     100.0
SQUARE =        .44211 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .8017
BER OF MISSING OBSERVATIONS =       3
```

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* * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * *
  X104      AREA OF CERTIFICATION                               BY  X67        HELP STUDENTS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

               X67
       COUNT  I
     ROW PCT  INO         YES          ROW
     COL PCT  I                        TOTAL
     TOT PCT  I       0.I       1.I
04    --------I---------I---------I
          1.  I   120   I    29   I    149
SOCIAL STUDIES I   80.5  I  19.5   I   45.4
              I   43.3  I  56.9   I
              I   36.6  I   8.8   I
             -I---------I---------I
          2.  I    59   I     6   I     65
SCIENCE       I   90.8  I   9.2   I   19.8
              I   21.3  I  11.8   I
              I   18.0  I   1.8   I
             -I---------I---------I
          3.  I    98   I    16   I    114
PSYCHOLOGY    I   86.0  I  14.0   I   34.8
              I   35.4  I  31.4   I
              I   29.9  I   4.9   I
             -I---------I---------I
      COLUMN     277        51        328
       TOTAL     84.5      15.5     100.0

I SQUARE =     3.91343 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .1413

MBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * *
  X104       AREA OF CERTIFICATION                                    BY  X68        HELP DEVELOP
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                  X68
         COUNT   I
       ROW PCT   INO        YES          ROW
       COL PCT   I                       TOTAL
       TOT PCT   I       0.I       1.I
104      --------I--------I--------I
            1.   I    44  I   105  I    149
SOCIAL STUDIES   I  29.5  I  70.5  I   45.4
                 I  43.6  I  46.3  I
                 I  13.4  I  32.0  I
                -I--------I--------I
            2.   I    22  I    43  I     65
SCIENCE          I  33.8  I  66.2  I   19.8
                 I  21.8  I  18.9  I
                 I   6.7  I  13.1  I
                -I--------I--------I
            3.   I    35  I    79  I    114
PSYCHOLOGY       I  30.7  I  69.3  I   34.8
                 I  34.7  I  34.8  I
                 I  10.7  I  24.1  I
                -I--------I--------I
        COLUMN      101      227       328
         TOTAL     30.8     69.2     100.0
HI SQUARE =      .39626 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .8203
UMBER OF MISSING OBSERVATIONS =        3
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 * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                  BY  X69         PREPARE STUDENT
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1

                     X69
          COUNT    I
        ROW PCT    INO         YES          ROW
        COL PCT    I                        TOTAL
        TOT PCT    I        0.I       1.I
104      --------I--------I--------I
              1.  I    57   I    92   I    149
 SOCIAL  STUDIES  I  38.3   I  61.7   I   45.4
                  I  45.2   I  45.5   I
                  I  17.4   I  28.0   I
                 -I---------I---------I
              2.  I    26   I    39   I     65
 SCIENCE          I  40.0   I  60.0   I   19.8
                  I  20.6   I  19.3   I
                  I   7.9   I  11.9   I
                 -I---------I---------I
              3.  I    43   I    71   I    114
 PSYCHOLOGY       I  37.7   I  62.3   I   34.8
                  I  34.1   I  35.1   I
                  I  13.1   I  21.6   I
                 -I---------I---------I
          COLUMN      126        202        328
          TOTAL      38.4       61.6      100.0
HI SQUARE =        .09396 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .9541
UMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * *
  X104          AREA OF CERTIFICATION                                  BY  X70        ELIMINATE OF THE MISCONCEPTIONS
* * * * * *     * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1

                      X70
            COUNT   I
          ROW PCT   INO         YES          ROW
          COL PCT   I                        TOTAL
          TOT PCT   I       0.I       1.I
104        --------I--------I--------I
                1.  I    64  I    85  I     149
 SOCIAL STUDIES     I  43.0  I  57.0  I    45.4
                    I  43.8  I  46.7  I
                    I  19.5  I  25.9  I
                   -I--------I--------I
                2.  I    36  I    29  I      65
 SCIENCE            I  55.4  I  44.6  I    19.8
                    I  24.7  I  15.9  I
                    I  11.0  I   8.8  I
                   -I--------I--------I
                3.  I    46  I    68  I     114
 PSYCHOLOGY         I  40.4  I  59.6  I    34.8
                    I  31.5  I  37.4  I
                    I  14.0  I  20.7  I
                   -I--------I--------I
           COLUMN       146      182        328
            TOTAL      44.5     55.5      100.0
HI SQUARE =     4.05684 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .1315
UMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * *
  X104        AREA OF CERTIFICATION                                BY  X71        ASSIST STUDENTS IN PREPARING
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1

                  X71
        COUNT   I
        ROW PCT INO          YES          ROW
        COL PCT I                         TOTAL
        TOT PCT I         0.I         1.I
104     --------I---------I---------I
             1.  I    60   I    89   I   149
 SOCIAL STUDIES  I   40.3  I   59.7  I   45.4
                 I   44.1  I   46.4  I
                 I   18.3  I   27.1  I
                -I---------I---------I
             2.  I    28   I    37   I    65
 SCIENCE         I   43.1  I   56.9  I   19.8
                 I   20.6  I   19.3  I
                 I    8.5  I   11.3  I
                -I---------I---------I
             3.  I    48   I    66   I   114
 PSYCHOLOGY      I   42.1  I   57.9  I   34.8
                 I   35.3  I   34.4  I
                 I   14.6  I   20.1  I
                -I---------I---------I
          COLUMN     136       192       328
           TOTAL    41.5      58.5     100.0
CHI SQUARE =       .17673 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .9154
UMBER OF MISSING OBSERVATIONS =        3
                                                            - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * *
  X104      AREA OF CERTIFICATION                              BY  X72         ASSIST STUDENTS IN DEVELOPING
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                  X72
         COUNT   I
       ROW PCT   INO        YES         ROW
       COL PCT   I                      TOTAL
       TOT PCT   I       0.I       1.I
n4      ---------I---------I---------I
            1.   I    61   I    88   I   149
SOCIAL STUDIES   I  40.9   I  59.1   I  45.4
                 I  47.7   I  44.0   I
                 I  18.6   I  26.8   I
                -I---------I---------I
            2.   I    23   I    42   I    65
SCIENCE          I  35.4   I  64.6   I  19.8
                 I  18.0   I  21.0   I
                 I   7.0   I  12.8   I
                -I---------I---------I
            3.   I    44   I    70   I   114
PSYCHOLOGY       I  38.6   I  61.4   I  34.8
                 I  34.4   I  35.0   I
                 I  13.4   I  21.3   I
                -I---------I---------I
        COLUMN      128       200       328
         TOTAL     39.0      61.0     100.0

I SQUARE =      .60034 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .7407

MBER OF MISSING OBSERVATIONS =        3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * *
 X104      AREA OF CERTIFICATION                                BY  X73          HELP STUDENTS UNDERSTAND
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                      X73
            COUNT   I
          ROW PCT   INO          YES           ROW
          COL PCT   I                          TOTAL
          TOT PCT   I        0.I         1.I
04        --------I--------I--------I
              1.  I    33  I   116  I    149
SOCIAL  STUDIES   I  22.1  I  77.9  I   45.4
                  I  50.0  I  44.3  I
                  I  10.1  I  35.4  I
                 -I--------I--------I
              2.  I     7  I    58  I     65
SCIENCE           I  10.8  I  89.2  I   19.8
                  I  10.6  I  22.1  I
                  I   2.1  I  17.7  I
                 -I--------I--------I
              3.  I    26  I    88  I    114
PSYCHOLOGY        I  22.8  I  77.2  I   34.8
                  I  39.4  I  33.6  I
                  I   7.9  I  26.8  I
                 -I--------I--------I
          COLUMN       66       262       328
           TOTAL     20.1      79.9     100.0

I SQUARE =      4.42921 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .1092

MBER OF MISSING OBSERVATIONS =        3
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. . . . . . . . . . . . . . . . . . . . . .  C R O S S T A B U L A T I O N   O F  . . . . . . . . . . . . . . . . . . .
104        AREA OF CERTIFICATION                           BY  X74        ASSIST STUDENTS IN UNDERSTANDING THE
. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  PAGE  1 OF
                                                                          THE VOC
                  X74
          COUNT   I
        ROW PCT   INO         YES          ROW
        COL PCT   I                        TOTAL
        TOT PCT   I       0.I         1.I
04        --------I--------I---------I
             1.   I    47   I   102   I    149
SOCIAL STUDIES    I  31.5   I  68.5   I   45.4
                  I  44.3   I  45.9   I
                  I  14.3   I  31.1   I
                 -I--------I---------I
             2.   I    24   I    41   I     65
SCIENCE           I  36.9   I  63.1   I   19.8
                  I  22.6   I  18.5   I
                  I   7.3   I  12.5   I
                 -I--------I---------I
             3.   I    35   I    79   I    114
PSYCHOLOGY        I  30.7   I  69.3   I   34.8
                  I  33.0   I  35.6   I
                  I  10.7   I  24.1   I
                 -I--------I---------I
         COLUMN       106       222        328
          TOTAL      32.3      67.7      100.0
I SQUARE =       .80719 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .6679

MBER OF MISSING OBSERVATIONS =         3
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* * * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F * * * * * * * * * * * * * * * * * * * * * *
  X104      AREA OF CERTIFICATION                                 BY  X75         ASSIST STUDENTS IN ADJUSTING TO
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE   1 OF
                                                                                  LIFE

                 X75
       COUNT   I
     ROW PCT   INO          YES          ROW
     COL PCT   I                        TOTAL
     TOT PCT   I       0.I        1.I
104  --------I---------I---------I
          1.  I     35  I    114  I      149
 SOCIAL STUDIES I   23.5  I   76.5  I     45.4
              I   48.6  I   44.5  I
              I   10.7  I   34.8  I
             -I---------I---------I
          2.  I      7  I     58  I       65
 SCIENCE      I   10.8  I   89.2  I     19.8
              I    9.7  I   22.7  I
              I    2.1  I   17.7  I
             -I---------I---------I
          3.  I     30  I     84  I      114
 PSYCHOLOGY   I   26.3  I   73.7  I     34.8
              I   41.7  I   32.8  I
              I    9.1  I   25.6  I
             -I---------I---------I
      COLUMN        72        256        328
       TOTAL      22.0       78.0      100.0
CHI SQUARE =     6.21726 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .0447
NUMBER OF MISSING OBSERVATIONS =       3
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* * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * *
  X104      AREA OF CERTIFICATION                                  BY  X76        TO HELP STUDENTS BETTER UNDERSTAND
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                   X76
            COUNT  I
          ROW PCT  INO          YES           ROW
          COL PCT  I                          TOTAL
          TOT PCT  I        0.I          1.I
X104      ---------I--------I--------I
               1.  I     14 I    135 I     149
  SOCIAL STUDIES   I    9.4 I   90.6 I    45.4
                   I   33.3 I   47.2 I
                   I    4.3 I   41.2 I
                  -I--------I--------I
               2.  I      8 I     57 I      65
  SCIENCE          I   12.3 I   87.7 I    19.8
                   I   19.0 I   19.9 I
                   I    2.4 I   17.4 I
                  -I--------I--------I
               3.  I     20 I     94 I     114
  PSYCHOLOGY       I   17.5 I   82.5 I    34.8
                   I   47.6 I   32.9 I
                   I    6.1 I   28.7 I
                  -I--------I--------I
           COLUMN        42      286       328
            TOTAL      12.8     87.2     100.0

CHI SQUARE =     3.85818 WITH    2 DEGREES OF FREEDOM   SIGNIFICANCE =    .1453

NUMBER OF MISSING OBSERVATIONS =         3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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 * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F                                  * * * * * * * * * * * * * *
  X104     AREA OF CERTIFICATION                                   BY  X77     TO APPLY PSYCHOLOGICAL KNOWLEDGE
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                    X77
          COUNT   I
          ROW PCT INO        YES         ROW
          COL PCT I                      TOTAL
          TOT PCT I       0.I       1.I
104       --------I--------I--------I
              1.  I   63   I   86   I    149
 SOCIAL STUDIES   I  42.3  I  57.7  I   45.4
                  I  45.0  I  45.7  I
                  I  19.2  I  26.2  I
                 -I--------I--------I
              2.  I   30   I   35   I     65
 SCIENCE          I  46.2  I  53.8  I   19.8
                  I  21.4  I  18.6  I
                  I   9.1  I  10.7  I
                 -I--------I--------I
              3.  I   47   I   67   I    114
 PSYCHOLOGY       I  41.2  I  58.8  I   34.8
                  I  33.6  I  35.6  I
                  I  14.3  I  20.4  I
                 -I--------I--------I
           COLUMN     140      188       328
            TOTAL    42.7     57.3     100.0
CHI SQUARE =      .42851 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .8071
NUMBER OF MISSING OBSERVATIONS =
* * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                      BY  X78           TO HELP STUDENTS COPE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                  X78
        COUNT   I
        ROW PCT INO       YES        ROW
        COL PCT I                    TOTAL
        TOT PCT I      0.I      1.I
X104    --------I--------I--------I
            1.  I    55  I    94  I    149
  SOCIAL STUDIES I  36.9  I  63.1  I   45.4
                I  41.4  I  48.2  I
                I  16.8  I  28.7  I
               -I--------I--------I
            2.  I    27  I    38  I     65
  SCIENCE       I  41.5  I  58.5  I   19.8
                I  20.3  I  19.5  I
                I   8.2  I  11.6  I
               -I--------I--------I
            3.  I    51  I    63  I    114
  PSYCHOLOGY    I  44.7  I  55.3  I   34.8
                I  38.3  I  32.3  I
                I  15.5  I  19.2  I
               -I--------I--------I
         COLUMN     133      195       328
         TOTAL     40.5     59.5     100.0
CHI SQUARE =     1.67302 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .4332
NUMBER OF MISSING OBSERVATIONS =        3
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 * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * *
 X109      AREA OF CERTIFICATION                                  BY  X80          INTELLIGENCE
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                     X80
          COUNT   I
        ROW PCT   INO          YES
        COL PCT   I                         ROW
        TOT PCT   I        0.I        1.I   TOTAL
9        ---------I--------I----------I
             1.   I    39  I   110    I    149
OCIAL STUDIES     I  26.2  I  73.8    I   45.4
                  I  50.6  I  43.8    I
                  I  11.9  I  33.5    I
                 -I--------I----------I
             2.   I    14  I    51    I     65
CIENCE            I  21.5  I  78.5    I   19.8
                  I  18.2  I  20.3    I
                  I   4.3  I  15.5    I
                 -I--------I----------I
             3.   I    24  I    90    I    114
SYCHOLOGY         I  21.1  I  78.9    I   34.8
                  I  31.2  I  35.9    I
                  I   7.3  I  27.4    I
                 -I--------I----------I
         COLUMN        77       251        328
          TOTAL      23.5      76.5      100.0
 SQUARE =      1.11247 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .5734
PER OF MISSING OBSERVATIONS =        3
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 * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * *
 X104      AREA OF CERTIFICATION                           BY  X81          PERSONALITY THEORY
 * * * * *  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                 X81
          COUNT  I
        ROW PCT  INO        YES          ROW
        COL PCT  I                       TOTAL
        TOT PCT  I       0.I       1.I
4        --------I--------I--------I
             1.  I    12  I   137  I   149
OCIAL STUDIES    I   8.1  I  91.9  I  45.4
                 I  38.7  I  46.1  I
                 I   3.7  I  41.8  I
                -I--------I--------I
             2.  I     8  I    57  I    65
CIENCE           I  12.3  I  87.7  I  19.8
                 I  25.8  I  19.2  I
                 I   2.4  I  17.4  I
                -I--------I--------I
             3.  I    11  I   103  I   114
SYCHOLOGY        I   9.6  I  90.4  I  34.8
                 I  35.5  I  34.7  I
                 I   3.4  I  31.4  I
                -I--------I--------I
          COLUMN      31      297      328
           TOTAL     9.5     90.5    100.0
 SQUARE =       .96499 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .6172

BER OF MISSING OBSERVATIONS =        3
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* *   * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * *
   104      AREA OF CERTIFICATION                                 BY  X82          HISTORY OF PSYCHOLOGY
* *   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                  X82
         COUNT   I
       ROW PCT   INO         YES          ROW
       COL PCT   I                        TOTAL
       TOT PCT   I        0.I      1.I
X104     --------I---------I---------I
            1.   I    73   I    76   I    149
  SOCIAL STUDIES I  49.0   I  51.0   I   45.4
                 I  46.5   I  44.4   I
                 I  22.3   I  23.2   I
                -I---------I---------I
            2.   I    32   I    33   I     65
  SCIENCE        I  49.2   I  50.8   I   19.8
                 I  20.4   I  19.3   I
                 I   9.8   I  10.1   I
                -I---------I---------I
            3.   I    52   I    62   I    114
  PSYCHOLOGY     I  45.6   I  54.4   I   34.8
                 I  33.1   I  36.3   I
                 I  15.9   I  18.9   I
                -I---------I---------I
         COLUMN      157       171        328
          TOTAL     47.9      52.1      100.0
CHI SQUARE =       .35607 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .8369

NUMBER OF MISSING OBSERVATIONS =        3
- - - -      - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * * *
  X104       AREA OF CERTIFICATION                                BY  X83         MOTIVATION                       PAGE  1 OF
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

                    X83
          COUNT   I
        ROW PCT   INO        YES          ROW
        COL PCT   I                       TOTAL
        TOT PCT   I      0.I        1.I
04       ---------I--------I--------I
             1.   I    31  I   118  I     149
SOCIAL STUDIES    I  20.8  I  79.2  I    45.4
                  I  51.7  I  44.0  I
                  I   9.5  I  36.0  I
                 -I--------I--------I
             2.   I    14  I    51  I      65
SCIENCE           I  21.5  I  78.5  I    19.8
                  I  23.3  I  19.0  I
                  I   4.3  I  15.5  I
                 -I--------I--------I
             3.   I    15  I    99  I     114
PSYCHOLOGY        I  13.2  I  86.8  I    34.8
                  I  25.0  I  36.9  I
                  I   4.6  I  30.2  I
                 -I--------I--------I
         COLUMN        60      268        328
          TOTAL      18.3     81.7      100.0
HI SQUARE =      3.09855 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .2124
UMBER OF MISSING OBSERVATIONS =          3
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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                                                                                    * * * * * * * * * * * * * * * *
* * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  EMOTIONS
                                                    BY  X84
  X104     AREA OF CERTIFICATION  * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  - --  -- - -

                   X84
          COUNT   I
        ROW PCT   INO        YES          ROW
        COL PCT   I                       TOTAL
        TOT PCT   I      0.I      1.I
         ---------I--------I--------I
104           1.  I     22 I    127 I     149
 SOCIAL STUDIES   I   14.8 I   85.2 I    45.4
                  I   50.0 I   44.7 I
                  I    6.7 I   38.7 I
                 -I--------I--------I
              2.  I      7 I     58 I      65
 SCIENCE          I   10.8 I   89.2 I    19.8
                  I   15.9 I   20.4 I
                  I    2.1 I   17.7 I
                 -I--------I--------I
              3.  I     15 I     99 I     114
 PSYCHOLOGY       I   13.2 I   86.8 I    34.8
                  I   34.1 I   34.9 I
                  I    4.6 I   30.2 I
                 -I--------I--------I
          COLUMN        44      284       328
           TOTAL      13.4     86.6     100.0

CHI SQUARE =       .63205 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .7290
NUMBER OF MISSING OBSERVATIONS =        3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * * * *
   X104       AREA OF CERTIFICATION                                 BY  X85          MENTAL ILLNESS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 OF

                       X85
              COUNT   I
            ROW PCT   INO         YES          ROW
            COL PCT   I                        TOTAL
            TOT PCT   I       0.I        1.I
X104        --------I--------I--------I
                 1.   I    24  I   125  I    149
  SOCIAL STUDIES      I  16.1  I  83.9  I   45.4
                      I  49.0  I  44.8  I
                      I   7.3  I  38.1  I
                     -I--------I--------I
                 2.   I    13  I    52  I     65
  SCIENCE             I  20.0  I  80.0  I   19.8
                      I  26.5  I  18.6  I
                      I   4.0  I  15.9  I
                     -I--------I--------I
                 3.   I    12  I   102  I    114
  PSYCHOLOGY          I  10.5  I  89.5  I   34.8
                      I  24.5  I  36.6  I
                      I   3.7  I  31.1  I
                     -I--------I--------I
             COLUMN        49      279       328
              TOTAL      14.9     85.1     100.0

CHI SQUARE =      3.21711 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .2002

NUMBER OF MISSING OBSERVATIONS =        3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                            BY  X86       MENTAL HEALTH
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                   X86
         COUNT   I
        ROW PCT  INO       YES         ROW
        COL PCT  I                     TOTAL
        TOT PCT  I        0.I       1.I
X104    ---------I--------I--------I
             1.  I    27  I   122  I    149
  SOCIAL STUDIES I  18.1  I  81.9  I   45.4
                 I  50.0  I  44.5  I
                 I   8.2  I  37.2  I
                -I--------I--------I
             2.  I    15  I    50  I     65
  SCIENCE        I  23.1  I  76.9  I   19.8
                 I  27.8  I  18.2  I
                 I   4.6  I  15.2  I
                -I--------I--------I
             3.  I    12  I   102  I    114
  PSYCHOLOGY     I  10.5  I  89.5  I   34.8
                 I  22.2  I  37.2  I
                 I   3.7  I  31.1  I
                -I--------I--------I
         COLUMN       54      274       328
          TOTAL     16.5     83.5     100.0
CHI SQUARE =     5.28664 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0711

NUMBER OF MISSING OBSERVATIONS =        3
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 * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * * *
 X104      AREA OF CERTIFICATION                                     BY  X87         MENTAL RETARDATION
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE   1 OF

                           X87
                COUNT    I
               ROW PCT   INO           YES              ROW
               COL PCT   I                              TOTAL
               TOT PCT   I        0.I         1.I
4              ----------I---------I---------I
                     1.  I     64  I     85  I     149
SOCIAL STUDIES           I   43.0  I   57.0  I    45.4
                         I   53.3  I   40.9  I
                         I   19.5  I   25.9  I
                        -I---------I---------I
                     2.  I     28  I     37  I      65
SCIENCE                  I   43.1  I   56.9  I    19.8
                         I   23.3  I   17.8  I
                         I    8.5  I   11.3  I
                        -I---------I---------I
                     3.  I     28  I     86  I     114
PSYCHOLOGY               I   24.6  I   75.4  I    34.8
                         I   23.3  I   41.3  I
                         I    8.5  I   26.2  I
                        -I---------I---------I
                COLUMN        120       208       328
                 TOTAL       36.6      63.4     100.0

I SQUARE =     10.88868 WITH    2 DEGREES OF FREEDOM    SIGNIFICANCE =    .0043

MBER OF MISSING OBSERVATIONS =         3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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 * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * * * *
   X104       AREA OF CERTIFICATION                                BY  X88       STATISTICS
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF
                          8
          COUNT    I
        ROW PCT    INO          YES          ROW
        COL PCT    I                         TOTAL
        TOT PCT    I         0.I          1.I
104     -----------I---------I----------I
              1.   I    113  I      36  I      149
 SOCIAL STUDIES    I   75.8  I    24.2  I     45.4
                   I   46.7  I    41.9  I
                   I   34.5  I    11.0  I
                  -I---------I----------I
              2.   I     47  I      18  I       65
 SCIENCE           I   72.3  I    27.7  I     19.8
                   I   19.4  I    20.9  I
                   I   14.3  I     5.5  I
                  -I---------I----------I
              3.   I     82  I      32  I      114
 PSYCHOLOGY        I   71.9  I    28.1  I     34.8
                   I   33.9  I    37.2  I
                   I   25.0  I     9.8  I
                  -I---------I----------I
         COLUMN         242          86         328
          TOTAL        73.8        26.2       100.0
I SQUARE =       .60108 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .7404
MBER OF MISSING OBSERVATIONS =        3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * *
 X104      AREA OF CERTIFICATION                         BY  X89        LEARNING THEORY
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 OF

                   X89
         COUNT   I
        ROW PCT  INO         YES           ROW
        COL PCT  I                         TOTAL
        TOT PCT  I        0.I        1.I
04      --------I---------I---------I
              1.  I    28   I    121  I    149
SOCIAL STUDIES    I   18.8  I   81.2  I   45.4
                  I   45.9  I   45.3  I
                  I    8.5  I   36.9  I
                 -I---------I---------I
              2.  I    16   I     49  I     65
SCIENCE           I   24.6  I   75.4  I   19.8
                  I   26.2  I   18.4  I
                  I    4.9  I   14.9  I
                 -I---------I---------I
              3.  I    17   I     97  I    114
PSYCHOLOGY        I   14.9  I   85.1  I   34.8
                  I   27.9  I   36.3  I
                  I    5.2  I   29.6  I
                 -I---------I---------I
        COLUMN         61        267       328
         TOTAL        18.6       81.4     100.0

I SQUARE =      2.58132 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .2751

MBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                  BY  X90        THE HUMAN BODY
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * PAGE  10

                 X90
         COUNT   I
        ROW PCT  INO          YES          ROW
        COL PCT  I                         TOTAL
        TOT PCT  I        0.I        1.I
X104    --------I--------I--------I
              1.  I    95   I    54   I     149
  SOCIAL STUDIES  I  63.8   I  36.2   I    45.4
                  I  47.3   I  42.5   I
                  I  29.0   I  16.5   I
                 -I--------I--------I
              2.  I    38   I    27   I      65
  SCIENCE         I  58.5   I  41.5   I    19.8
                  I  18.9   I  21.3   I
                  I  11.6   I   8.2   I
                 -I--------I--------I
              3.  I    68   I    46   I     114
  PSYCHOLOGY      I  59.6   I  40.4   I    34.8
                  I  33.8   I  36.2   I
                  I  20.7   I  14.0   I
                 -I--------I--------I
         COLUMN       201        127        328
          TOTAL      61.3       38.7      100.0

CHI SQUARE =      .73112 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .6938

NUMBER OF MISSING OBSERVATIONS =       3

- - - -     - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -   - -
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                BY  X91        HEREDITY                          AND GENETIC
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1

                  X91
        COUNT    I
        ROW PCT  INO               YES          ROW
        COL PCT  I                              TOTAL
        TOT PCT  I      [illegible]I         1.I
X104    ---------I---------I---------I
             1.  I    [illegible] I      58  I     149
  SOCIAL STUDIES I   61.1  I   38.9  I    45.4
                 I   51.7  I   38.2  I
                 I   27.7  I   17.7  I
                -I---------I---------I
             2.  I     33  I     32  I      65
  SCIENCE        I   50.8  I   49.2  I    19.8
                 I   18.8  I   21.1  I
                 I   10.1  I    9.8  I
                -I---------I---------I
             3.  I     52  I     62  I     114
  PSYCHOLOGY     I   45.6  I   54.4  I    34.8
                 I   29.5  I   40.8  I
                 I   15.9  I   18.9  I
                -I---------I---------I
         COLUMN      176       152         328
          TOTAL     53.7      46.3       100.0
CHI SQUARE =      6.47990 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0392
NUMBER OF MISSING OBSERVATIONS =          3
- - -        - - - -   - -   -
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* * * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                       BY  X92        HUMAN GROWTH
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE

                    X92
         COUNT    I
        ROW PCT   INO          YES            ROW
        COL PCT   I                           TOTAL
        TOT PCT   I         0.I         1.I
X104    ----------I---------I---------I
             1.   I    36   I   113   I    149
  SOCIAL STUDIES  I  24.2   I  75.8   I   45.4
                  I  49.3   I  44.3   I
                  I  11.0   I  34.5   I
                 -I---------I---------I
             2.   I    11   I    54   I     65
  SCIENCE         I  16.9   I  83.1   I   19.8
                  I  15.1   I  21.2   I
                  I   3.4   I  16.5   I
                 -I---------I---------I
             3.   I    26   I    88   I    114
  PSYCHOLOGY      I  22.8   I  77.2   I   34.8
                  I  35.6   I  34.5   I
                  I   7.9   I  26.8   I
                 -I---------I---------I
         COLUMN        73        255        328
          TOTAL      22.3       77.7      100.0

CHI SQUARE =      1.40092 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .4964

NUMBER OF MISSING OBSERVATIONS =          3

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * *
     X104      AREA OF CERTIFICATION                                     BY  X93        THE ADOLESCENT
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  10

                      X93
             COUNT   I
           ROW PCT   INO          YES           ROW
           COL PCT   I                          TOTAL
           TOT PCT   I       0.I       1.I
X104         --------I---------I---------I
                  1. I     33  I    116  I     149
   SOCIAL STUDIES    I   22.1  I   77.9  I    45.4
                     I   47.8  I   44.8  I
                     I   10.1  I   35.4  I
                    -I---------I---------I
                  2. I     12  I     53  I      65
   SCIENCE           I   18.5  I   81.5  I    19.8
                     I   17.4  I   20.5  I
                     I    3.7  I   16.2  I
                    -I---------I---------I
                  3. I     24  I     90  I     114
   PSYCHOLOGY        I   21.1  I   78.9  I    34.8
                     I   34.8  I   34.7  I
                     I    7.3  I   27.4  I
                    -I---------I---------I
            COLUMN          69        259      328
             TOTAL        21.0       79.0    100.0
CHI SQUARE =       .37021 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .8310
NUMBER OF MISSING OBSERVATIONS =        3
- - - - -      - - - - - - - - - -  - - - - - - - -  -  - - - -  -
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * * * * * *
  X104      AREA OF CERTIFICATION                                 BY  X94        SENSATION AND PERCEPTION
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *    PAGE  1 0

                    X94
          COUNT    I
        ROW PCT    INO         YES          ROW
        COL PCT    I                        TOTAL
        TOT PCT    I       0.I        1.I
04      --------   I---------I---------I
             1.    I    49   I   100   I    149
 SOCIAL STUDIES    I  32.9   I  67.1   I   45.4
                   I  47.1   I  44.6   I
                   I  14.9   I  30.5   I
                  -I---------I---------I
             2.    I    25   I    40   I     65
 SCIENCE           I  38.5   I  61.5   I   19.8
                   I  24.0   I  17.9   I
                   I   7.6   I  12.2   I
                  -I---------I---------I
             3.    I    30   I    84   I    114
 PSYCHOLOGY        I  26.3   I  73.7   I   34.8
                   I  28.8   I  37.5   I
                   I   9.1   I  25.6   I
                  -I---------I---------I
          COLUMN       104       224        328
           TOTAL      31.7      68.3      100.0
HI SQUARE =      2.99535 WITH   2 DEGREES OF FREEDOM    SIGNIFICANCE =    .2236
UMBER OF MISSING OBSERVATIONS =          3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * *
  X104       AREA OF CERTIFICATION                                  BY  X95          SOCIAL BEHAVIOR
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 (

                   X95
          COUNT   I
        ROW PCT   INO        YES          ROW
        COL PCT   I                       TOTAL
        TOT PCT   I       0.I        1.I
104      ---------I--------I--------I
              1.  I    38  I   111  I    149
 SOCIAL STUDIES   I  25.5  I  74.5  I   45.4
                  I  50.0  I  44.0  I
                  I  11.6  I  33.8  I
                 -I--------I--------I
              2.  I    14  I    51  I     65
 SCIENCE          I  21.5  I  78.5  I   19.8
                  I  18.4  I  20.2  I
                  I   4.3  I  15.5  I
                 -I--------I--------I
              3.  I    24  I    90  I    114
 PSYCHOLOGY       I  21.1  I  78.9  I   34.8
                  I  31.6  I  35.7  I
                  I   7.3  I  27.4  I
                 -I--------I--------I
         COLUMN       76       252       328
          TOTAL     23.2      76.8     100.0
HI SQUARE =       .84000 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .6570

UMBER OF MISSING OBSERVATIONS =          3
- - - - - - - - - - - - - - -   - - - - - - - - - - - - - - -   -   -
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* * * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * *
  X104     AREA OF CERTIFICATION                                  BY  X96           CHILD CARE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1

                    X96
           COUNT   I
          ROW PCT  INO         YES            ROW
          COL PCT  I                          TOTAL
          TOT PCT  I        0.I        1.I
X104      --------I--------I--------I
              1.  I    82  I    67  I    149
  SOCIAL STUDIES  I  55.0  I  45.0  I   45.4
                  I  44.8  I  46.2  I
                  I  25.0  I  20.4  I
                 -I--------I--------I
              2.  I    36  I    29  I     65
  SCIENCE         I  55.4  I  44.6  I   19.8
                  I  19.7  I  20.0  I
                  I  11.0  I   8.8  I
                 -I--------I--------I
              3.  I    65  I    49  I    114
  PSYCHOLOGY      I  57.0  I  43.0  I   34.8
                  I  35.5  I  33.8  I
                  I  19.8  I  14.9  I
                 -I--------I--------I
           COLUMN     183       145       328
            TOTAL    55.8      44.2     100.0

CHI SQUARE =        .10855 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .9472

NUMBER OF MISSING OBSERVATIONS =          3
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* * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                BY  X97      MARRIAGE ANDTHE FAMILY
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 (

                    X97
          COUNT    I
        ROW PCT    INO          YES          ROW
        COL PCT    I                         TOTAL
        TOT PCT    I       0.I        1.I
X104      ---------I---------I---------I
               1.  I    79   I    70   I    149
  SOCIAL STUDIES   I  53.0   I  47.0   I   45.4
                   I  52.7   I  39.3   I
                   I  24.1   I  21.3   I
                  -I---------I---------I
               2.  I    23   I    42   I     65
  SCIENCE          I  35.4   I  64.6   I   19.8
                   I  15.3   I  23.6   I
                   I   7.0   I  12.8   I
                  -I---------I---------I
               3.  I    48   I    66   I    114
  PSYCHOLOGY       I  42.1   I  57.9   I   34.8
                   I  32.0   I  37.1   I
                   I  14.6   I  20.1   I
                  -I---------I---------I
           COLUMN      150       178        328
            TOTAL     45.7      54.3      100.0
CHI SQUARE =      6.59741 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0369

NUMBER OF MISSING OBSERVATIONS =         3
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* * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                    BY  X98       DRUGS,ALCOHOLISM
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  10

                 X98
         COUNT  I
       ROW PCT  INO       YES          ROW
       COL PCT  I                      TOTAL
       TOT PCT  I      0.I       1.I
X104   ---------I--------I---------I
             1. I   76   I    73   I    149
 SOCIAL STUDIES I  51.0  I   49.0  I   45.4
                I  51.0  I   40.8  I
                I  23.2  I   22.3  I
               -I--------I---------I
             2. I   29   I    36   I     65
 SCIENCE        I  44.6  I   55.4  I   19.8
                I  19.5  I   20.1  I
                I   8.8  I   11.0  I
               -I--------I---------I
             3. I   44   I    70   I    114
 PSYCHOLOGY     I  38.6  I   61.4  I   34.8
                I  29.5  I   39.1  I
                I  13.4  I   21.3  I
               -I--------I---------I
         COLUMN     149       179       328
          TOTAL    45.4      54.6     100.0
CHI SQUARE =      4.03392 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .1331
NUMBER OF MISSING OBSERVATIONS =         3
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* * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                BY  X99         LOVE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * PAGE  10

                   X99
          COUNT   I
        ROW PCT   INO         YES          ROW
        COL PCT   I                        TOTAL
        TOT PCT   I        0.I        1.I
X104     --------I---------I---------I
              1.  I     81  I     68  I     149
  SOCIAL STUDIES  I   54.4  I   45.6  I    45.4
                  I   51.6  I   39.8  I
                  I   24.7  I   20.7  I
                 -I---------I---------I
              2.  I     30  I     35  I      65
  SCIENCE         I   46.2  I   53.8  I    19.8
                  I   19.1  I   20.5  I
                  I    9.1  I   10.7  I
                 -I---------I---------I
              3.  I     46  I     68  I     114
  PSYCHOLOGY      I   40.4  I   59.6  I    34.8
                  I   29.3  I   39.8  I
                  I   14.0  I   20.7  I
                 -I---------I---------I
         COLUMN        157       171        328
          TOTAL       47.9      52.1      100.0

CHI SQUARE =     5.17633 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0752

NUMBER OF MISSING OBSERVATIONS =      3

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* * * * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * *
     X104       AREA OF CERTIFICATION                                          BY  X100       PARAPSYCHOLOGY ESP
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * PAGE  1

                     X100
           COUNT   I
         ROW PCT   INO         YES
         COL PCT   I                         ROW
         TOT PCT   I       0.I         1.I   TOTAL
X104     ----------I---------I---------I
              1.   I    72   I    77   I     149
  SOCIAL STUDIES   I  48.3   I  51.7   I    45.4
                   I  47.1   I  44.0   I
                   I  22.0   I  23.5   I
                  -I---------I---------I
              2.   I    36   I    29   I      65
  SCIENCE          I  55.4   I  44.6   I    19.8
                   I  23.5   I  16.6   I
                   I  11.0   I   8.8   I
                  -I---------I---------I
              3.   I    45   I    69   I     114
  PSYCHOLOGY       I  39.5   I  60.5   I    34.8
                   I  29.4   I  39.4   I
                   I  13.7   I  21.0   I
                  -I---------I---------I
           COLUMN      153       175         328
           TOTAL      46.6      53.4       100.0
CHI SQUARE =      4.51898 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .1044
NUMBER OF MISSING OBSERVATIONS =        3
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. . . . . . . . . . . . . . . . .   C R O S S T A B U L A T I O N   O F   . . . . . . . . . . . . . . . .
 X104      AREA OF CERTIFICATION                              BY  X101       ABNORMAL BEHAVIOR
. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .   PAGE  1

                  X101
          COUNT  I
        ROW PCT  INO        YES         ROW
        COL PCT  I                      TOTAL
        TOT PCT  I       0.I       1.I
104      --------I---------I---------I
             1.  I    34   I   115   I    149
 SOCIAL STUDIES  I  22.8   I  77.2   I   45.4
                 I  47.3   I  44.4   I
                 I  10.4   I  35.1   I
                -I---------I---------I
             2.  I    17   I    48   I     65
 SCIENCE         I  26.2   I  73.8   I   19.8
                 I  24.6   I  18.5   I
                 I   5.2   I  14.6   I
                -I---------I---------I
             3.  I    18   I    96   I    114
 PSYCHOLOGY      I  15.8   I  84.2   I   34.8
                 I  26.1   I  37.1   I
                 I   5.5   I  29.3   I
                -I---------I---------I
         COLUMN       69       259        328
          TOTAL     21.0      79.0      100.0
HI SQUARE =      3.19907 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .2020

UMBER OF MISSING OBSERVATIONS =        3

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 * * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * *
  X104      AREA OF CERTIFICATION * * * * * * * * * * * * *   BY  X103      HIGHEST LEVEL OF COURSE TRAINING
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  10

               X103
       COUNT   I
     ROW PCT   IBACHELOR POST-BAC MASTER    POST-MAS SPECIALI DOCTORAT   ROW
     COL PCT   IS        HELORS             TER      ST       E          TOTAL
     TOT PCT   I      1.I      2.I      3.I      4.I      5.I      6.I
104     --------I--------I--------I--------I--------I--------I--------I
             1. I     24 I     26 I     42 I     49 I      2 I      5 I    148
  SOCIAL STUDIES I   16.2 I   17.6 I   28.4 I   33.1 I    1.4 I    3.4 I   45.3
                I   43.6 I   57.8 I   39.3 I   45.8 I   50.0 I   55.6 I
                I    7.3 I    8.0 I   12.8 I   15.0 I     .6 I    1.5 I
               -I--------I--------I--------I--------I--------I--------I
             2. I      1 I      2 I     34 I     27 I      0 I      1 I     65
  SCIENCE       I    1.5 I    3.1 I   52.3 I   41.5 I     .0 I    1.5 I   19.9
                I    1.8 I    4.4 I   31.8 I   25.2 I     .0 I   11.1 I
                I     .3 I     .6 I   10.4 I    8.3 I     .0 I     .3 I
               -I--------I--------I--------I--------I--------I--------I
             3. I     30 I     17 I     31 I     31 I      2 I      3 I    114
  PSYCHOLOGY    I   26.3 I   14.9 I   27.2 I   27.2 I    1.8 I    2.6 I   34.9
                I   54.5 I   37.8 I   29.0 I   29.0 I   50.0 I   33.3 I
                I    9.2 I    5.2 I    9.5 I    9.5 I     .6 I     .9 I
               -I--------I--------I--------I--------I--------I--------I
         COLUMN       55       45      107      107        4        9     327
          TOTAL     16.8     13.8     32.7     32.7      1.2      2.8   100.0

CHI SQUARE =    36.02504 WITH  10 DEGREES OF FREEDOM   SIGNIFICANCE =   .0001

NUMBER OF MISSING OBSERVATIONS =        4
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * *
  X104       AREA OF CERTIFICATION                                BY  X106        ADEQUATELY PREPARED
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  10

                    X106
          COUNT   I
        ROW PCT   IYES        NO          ROW
        COL PCT   I                       TOTAL
        TOT PCT   I       1.I       2.I
104      ---------I---------I---------I
             1.   I   127   I    22   I   149
 SOCIAL STUDIES   I  85.2   I  14.8   I  45.4
                  I  43.8   I  57.9   I
                  I  38.7   I   6.7   I
                 -I---------I---------I
             2.   I    59   I     6   I    65
 SCIENCE          I  90.8   I   9.2   I  19.8
                  I  20.3   I  15.8   I
                  I  18.0   I   1.8   I
                 -I---------I---------I
             3.   I   104   I    10   I   114
 PSYCHOLOGY       I  91.2   I   8.8   I  34.8
                  I  35.9   I  26.3   I
                  I  31.7   I   3.0   I
                 -I---------I---------I
         COLUMN      290        38       328
          TOTAL      88.4      11.6     100.0
HI SQUARE =      2.70348 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .2588

UMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * *
  X104      AREA OF CERTIFICATION                                BY  X107       NEED MORE MATERIALS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  10

                     X107
           COUNT   I
         ROW PCT   IYES        NO             ROW
         COL PCT   I                          TOTAL
         TOT PCT   I          1.I          2.I
X104     ----------I----------I----------I
              1.   I   117    I     31    I     148
  SOCIAL STUDIES   I   79.1   I   20.9    I     45.5
                   I   44.8   I   48.4    I
                   I   36.0   I    9.5    I
                  -I----------I----------I
              2.   I    52    I     13    I      65
  SCIENCE          I   80.0   I   20.0    I     20.0
                   I   19.9   I   20.3    I
                   I   16.0   I    4.0    I
                  -I----------I----------I
              3.   I    92    I     20    I     112
  PSYCHOLOGY       I   82.1   I   17.9    I     34.5
                   I   35.2   I   31.3    I
                   I   28.3   I    6.2    I
                  -I----------I----------I
          COLUMN       261         64           325
           TOTAL       80.3       19.7         100.0
CHI SQUARE =        .38949 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .8230
NUMBER OF MISSING OBSERVATIONS =        6
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. . . . . . . . . . . . . . . . . . . . . . . . C R O S S T A B U L A T I O N   O F . . . . . . . . . . . . . . . .
                                                                 BY  X108      AUDIO-VISUAL AIDS . . . . . PAGE  1 0
. . . .  X104      AREA OF CERTIFICATION . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
. . . . . . . . . . . . . . . . . .

                     X108
           COUNT   I
          ROW PCT  IYES        NO          ROW
          COL PCT  I                      TOTAL
          TOT PCT  I        1.I       2.I
X104      ---------I---------I---------I
               1.  I    145  I      4  I    149
  SOCIAL STUDIES   I   97.3  I    2.7  I   45.8
                   I   45.7  I   50.0  I
                   I   44.6  I    1.2  I
                  -I---------I---------I
               2.  I     63  I      1  I     64
                   I   98.4  I    1.6  I   19.7
  SCIENCE          I   19.9  I   12.5  I
                   I   19.4  I     .3  I
                  -I---------I---------I
               3.  I    109  I      3  I    112
                   I   97.3  I    2.7  I   34.5
  PSYCHOLOGY       I   34.4  I   37.5  I
                   I   33.5  I     .9  I
                  -I---------I---------I
           COLUMN       317         8       325
           TOTAL       97.5       2.5     100.0

CHI SQUARE =        .26829 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .8745

NUMBER OF MISSING OBSERVATIONS =        6
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * *
    X104       AREA OF CERTIFICATION                                         BY  X109      FUNDS AVAILABLE TO PURCHASE [illegible]
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  10
                                                                                           TEACHING AID
                      X109
             COUNT  I
           ROW PCT  IYES        NO          POSSIBLY    ROW
           COL PCT  I                                   TOTAL
           TOT PCT  I        1.I        2.I        3.I
X104       ---------I--------I----------I---------I
                 1. I     88 I      47  I       9 I      144
  SOCIAL STUDIES    I   61.1 I    32.6  I     6.3 I     45.6
                    I   50.3 I    39.2  I    42.9 I
                    I   27.8 I    14.9  I     2.8 I
                   -I--------I----------I---------I
                 2. I     32 I      26  I       4 I       62
  SCIENCE           I   51.6 I    41.9  I     6.5 I     19.6
                    I   18.3 I    21.7  I    19.0 I
                    I   10.1 I     8.2  I     1.3 I
                   -I--------I----------I---------I
                 3. I     55 I      47  I       8 I      110
  PSYCHOLOGY        I   50.0 I    42.7  I     7.3 I     34.8
                    I   31.4 I    39.2  I    38.1 I
                    I   17.4 I    14.9  I     2.5 I
                   -I--------I----------I---------I
            COLUMN       175       120         21        316
             TOTAL      55.4      38.0        6.6      100.0
CHI SQUARE =      3.68039 WITH   4 DEGREES OF FREEDOM   SIGNIFICANCE =   .4510

NUMBER OF MISSING OBSERVATIONS =        15
                - - - - - - - - - -   - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                  BY  X110        POPULAR COURSE
* * * * *    * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  10

                   X110
         COUNT   I
         ROW PCT IYES        NO          NOT SURE    ROW
         COL PCT I                                   TOTAL
         TOT PCT I       1.I       2.I       3.I
X104     --------I---------I---------I---------I
              1. I   138   I     7   I     2   I    147
  SOCIAL STUDIES I  93.9   I   4.8   I   1.4   I   46.5
                 I  48.8   I  24.1   I  50.0   I
                 I  43.7   I   2.2   I    .6   I
                -I---------I---------I---------I
              2. I    47   I    11   I     1   I     59
  SCIENCE        I  79.7   I  18.6   I   1.7   I   18.7
                 I  16.6   I  37.9   I  25.0   I
                 I  14.9   I   3.5   I    .3   I
                -I---------I---------I---------I
              3. I    98   I    11   I     1   I    110
  PSYCHOLOGY     I  89.1   I  10.0   I    .9   I   34.8
                 I  34.6   I  37.9   I  25.0   I
                 I  31.0   I   3.5   I    .3   I
                -I---------I---------I---------I
         COLUMN      283        29          4       316
          TOTAL     89.6       9.2        1.3     100.0
CHI SQUARE =    10.12662 WITH   4 DEGREES OF FREEDOM   SIGNIFICANCE =   .0383
NUMBER OF MISSING OBSERVATIONS =       15
- - - -
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* * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * * *
 X104      AREA OF CERTIFICATION                              BY  X120      ADIFFERENT KIND OF TEXTBOOK
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 0

                 X120
        COUNT   I
      ROW PCT   INO          YES          ROW
      COL PCT   I                        TOTAL
      TOT PCT   I        0.I        1.I
04      --------I--------I--------I
           1.   I   110  I    39  I    149
SOCIAL STUDIES  I  73.8  I  26.2  I   45.4
                I  45.8  I  44.3  I
                I  33.5  I  11.9  I
               -I--------I--------I
           2.   I    48  I    17  I     65
SCIENCE         I  73.8  I  26.2  I   19.8
                I  20.0  I  19.3  I
                I  14.6  I   5.2  I
               -I--------I--------I
           3.   I    82  I    32  I    114
PSYCHOLOGY      I  71.9  I  28.1  I   34.8
                I  34.2  I  36.4  I
                I  25.0  I   9.8  I
               -I--------I--------I
        COLUMN      240       88       328
         TOTAL     73.2     26.8     100.0
I SQUARE =     .13707 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .9338

MBER OF MISSING OBSERVATIONS =        3
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 * * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * *
    X104      AREA OF CERTIFICATION                                          BY  X121        OVERHEAD TRANSPARENCIES
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 0

                    X121
          COUNT    I
          ROW PCT  INO          YES          ROW
          COL PCT  I                         TOTAL
          TOT PCT  I       0.I        1.I
X104      ---------I---------I---------I
                1. I   101   I    48   I    149
  SOCIAL STUDIES   I  67.8   I  32.2   I   45.4
                   I  45.3   I  45.7   I
                   I  30.8   I  14.6   I
                  -I---------I---------I
                2. I    43   I    22   I     65
  SCIENCE          I  66.2   I  33.8   I   19.8
                   I  19.3   I  21.0   I
                   I  13.1   I   6.7   I
                  -I---------I---------I
                3. I    79   I    35   I    114
  PSYCHOLOGY       I  69.3   I  30.7   I   34.8
                   I  35.4   I  33.3   I
                   I  24.1   I  10.7   I
                  -I---------I---------I
            COLUMN     223       105        328
             TOTAL    68.0      32.0      100.0
CHI SQUARE =       .19321 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .9079
NUMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * * *
    X104      AREA OF CERTIFICATION                                BY  X122      AUDIO-CASSETTE TAPES
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  10

                   X122
         COUNT   I
        ROW PCT  INO         YES          ROW
        COL PCT  I                        TOTAL
        TOT PCT  I       0.I         1.I
X104    ---------I---------I---------I
             1.  I   113   I    36   I    149
  SOCIAL STUDIES I  75.8   I  24.2   I   45.4
                 I  46.3   I  42.9   I
                 I  34.5   I  11.0   I
                -I---------I---------I
             2.  I    51   I    14   I     65
  SCIENCE        I  78.5   I  21.5   I   19.8
                 I  20.9   I  16.7   I
                 I  15.5   I   4.3   I
                -I---------I---------I
             3.  I    80   I    34   I    114
  PSYCHOLOGY     I  70.2   I  29.8   I   34.8
                 I  32.8   I  40.5   I
                 I  24.4   I  10.4   I
                -I---------I---------I
        COLUMN      244        84         328
         TOTAL      74.4      25.6      100.0
CHI SQUARE =      1.79268 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .4081
NUMBER OF MISSING OBSERVATIONS =        3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                               BY  X123       MATERIALS FOR SLOW LEARNERS-READERS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * PAGE  1 O

                 X123
         COUNT  I
        ROW PCT INO        YES         ROW
        COL PCT I                      TOTAL
        TOT PCT I         0.I       1.I
X104    --------I---------I---------I
             1. I   123   I    26   I   149
  SOCIAL STUDIES I  82.6  I  17.4   I  45.4
                I  45.6   I  44.8   I
                I  37.5   I   7.9   I
               -I---------I---------I
             2. I    58   I     7   I    65
  SCIENCE       I  89.2   I  10.8   I  19.8
                I  21.5   I  12.1   I
                I  17.7   I   2.1   I
               -I---------I---------I
             3. I    89   I    25   I   114
  PSYCHOLOGY    I  78.1   I  21.9   I  34.8
                I  33.0   I  43.1   I
                I  27.1   I   7.6   I
               -I---------I---------I
         COLUMN     270        58       328
          TOTAL     82.3      17.7     100.0

CHI SQUARE =      3.55259 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .1693

NUMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                BY  X124       FILMS-MOVIES
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 O

                 X124
        COUNT   I
        ROW PCT INO        YES         ROW
        COL PCT I                      TOTAL
        TOT PCT I      0.I       1.I
X104    --------I--------I--------I
             1.  I   43   I  106   I   149
  SOCIAL STUDIES I  28.9  I  71.1  I   45.4
                 I  43.4  I  46.3  I
                 I  13.1  I  32.3  I
                -I--------I--------I
             2.  I   16   I   49   I    65
  SCIENCE        I  24.6  I  75.4  I   19.8
                 I  16.2  I  21.4  I
                 I   4.9  I  14.9  I
                -I--------I--------I
             3.  I   40   I   74   I   114
  PSYCHOLOGY     I  35.1  I  64.9  I   34.8
                 I  40.4  I  32.3  I
                 I  12.2  I  22.6  I
                -I--------I--------I
         COLUMN      99       229      328
          TOTAL     30.2      69.8    100.0
CHI SQUARE =     2.38149 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .3040

NUMBER OF MISSING OBSERVATIONS =       3
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* * * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * *
   X104     AREA OF CERTIFICATION                                    BY  X125      AREFERENCE SERVICE FOR STUDENTS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * PAGE  1

                 X125
          COUNT  I
        ROW PCT  INO        YES          ROW
        COL PCT  I                       TOTAL
        TOT PCT  I      0.I      1.I
X104    ---------I--------I--------I
             1.  I   114  I    35  I     149
  SOCIAL STUDIES I  76.5  I  23.5  I    45.4
                 I  45.8  I  44.3  I
                 I  34.8  I  10.7  I
                -I--------I--------I
             2.  I    51  I    14  I      65
  SCIENCE        I  78.5  I  21.5  I    19.8
                 I  20.5  I  17.7  I
                 I  15.5  I   4.3  I
                -I--------I--------I
             3.  I    84  I    30  I     114
  PSYCHOLOGY     I  73.7  I  26.3  I    34.8
                 I  33.7  I  38.0  I
                 I  25.6  I   9.1  I
                -I--------I--------I
         COLUMN      249       79        328
          TOTAL     75.9     24.1      100.0
CHI SQUARE =       .56966 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .7521
NUMBER OF MISSING OBSERVATIONS =        3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * *
    X104       AREA OF CERTIFICATION                                        BY  X126       CAREER-RELATED PAMPHLETS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  10

                      X126
          COUNT     I
          ROW PCT   INO          YES           ROW
          COL PCT   I                          TOTAL
          TOT PCT   I        0.I        1.I
X104      ----------I---------I---------I
                 1. I   117   I    32   I    149
  SOCIAL STUDIES    I  78.5   I  21.5   I   45.4
                    I  46.8   I  41.0   I
                    I  35.7   I   9.8   I
                   -I---------I---------I
                 2. I    53   I    12   I     65
  SCIENCE           I  81.5   I  18.5   I   19.8
                    I  21.2   I  15.4   I
                    I  16.2   I   3.7   I
                   -I---------I---------I
                 3. I    80   I    34   I    114
  PSYCHOLOGY        I  70.2   I  29.8   I   34.8
                    I  32.0   I  43.6   I
                    I  24.4   I  10.4   I
                   -I---------I---------I
             COLUMN     250        78         328
              TOTAL    76.2      23.8       100.0

CHI SQUARE =      3.74855 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .1535

NUMBER OF MISSING OBSERVATIONS =         3
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 * * *         * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * *
  X104       AREA OF CERTIFICATION                            BY  X127        ANEWSLETTER FOR TEACHERS
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   PAGE  1 O

                      X127
          COUNT     I
          ROW PCT   INO          YES           ROW
          COL PCT   I                          TOTAL
          TOT PCT   I        0.I        1.I
104       --------I---------I---------I
                1.  I    99   I    50   I    149
 SOCIAL STUDIES     I   66.4  I   33.6  I   45.4
                    I   44.8  I   46.7  I
                    I   30.2  I   15.2  I
                   -I---------I---------I
                2.  I    53   I    12   I     65
 SCIENCE            I   81.5  I   18.5  I   19.8
                    I   24.0  I   11.2  I
                    I   16.2  I    3.7  I
                   -I---------I---------I
                3.  I    69   I    45   I    114
 PSYCHOLOGY         I   60.5  I   39.5  I   34.8
                    I   31.2  I   42.1  I
                    I   21.0  I   13.7  I
                   -I---------I---------I
          COLUMN        221       107        328
          TOTAL         67.4      32.6      100.0

HI SQUARE =      8.42391 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0148

UMBER OF MISSING OBSERVATIONS =        3
- -       - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -   - - -
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* * * * * * * * * * * * * * * * * * * * * * * *
X104      AREA OF CERTIFICATION     C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *   BY  X128       LIST OF LOCAL GUEST SPEAKERS  * * *
                                                                        * * * * * * * * * * * * * * * * *   PAGE  1 0
              X128
        COUNT  I
      ROW PCT  INO          YES
      COL PCT  I                         ROW
      TOT PCT  I                         TOTAL
               I       0.I        1.I
     ----------I---------I---------I
           1.  I     67  I     82  I
IAL STUDIES    I   45.0  I   55.0  I    149
               I   47.2  I   44.1  I   45.4
               I   20.4  I   25.0  I
              -I---------I---------I
           2.  I     34  I     31  I
ENCE           I   52.3  I   47.7  I     65
               I   23.9  I   16.7  I   19.8
               I   10.4  I    9.5  I
              -I---------I---------I
           3.  I     41  I     73  I
CHOLOGY        I   36.0  I   64.0  I    114
               I   28.9  I   39.2  I   34.8
               I   12.5  I   22.3  I
              -I---------I---------I
       COLUMN       142       186        328
        TOTAL      43.3      56.7      100.0
UARE =      4.81520 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0900
 OF MISSING OBSERVATIONS =       3
- - - -  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * *
X104      AREA OF CERTIFICATION                              BY  X129        FILMSTRIPS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  10

                 X129
        COUNT   I
        ROW PCT INO        YES         ROW
        COL PCT I                      TOTAL
        TOT PCT I       0.I       1.I
        --------I--------I--------I
            1.  I    96  I    53  I   149
CIAL STUDIES    I  64.4  I  35.6  I  45.4
                I  45.9  I  44.5  I
                I  29.3  I  16.2  I
               -I--------I--------I
            2.  I    44  I    21  I    65
IENCE           I  67.7  I  32.3  I  19.8
                I  21.1  I  17.6  I
                I  13.4  I   6.4  I
               -I--------I--------I
            3.  I    69  I    45  I   114
YCHOLOGY        I  60.5  I  39.5  I  34.8
                I  33.0  I  37.8  I
                I  21.0  I  13.7  I
               -I--------I--------I
         COLUMN     209      119      328
          TOTAL    63.7     36.3    100.0

SQUARE =      .97908 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =    .6129

ER OF MISSING OBSERVATIONS =       3
-     - - - - - - - -   - -   - - - - - - - -   - - - - - - -   -   - -
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* * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * *
  X104      AREA OF CERTIFICATION                                   BY  X130      SIMULATION GAMES
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  10

                  X130
          COUNT   I
        ROW PCT   INO          YES            ROW
        COL PCT   I                           TOTAL
        TOT PCT   I        0.I         1.I
104      ---------I--------I---------I
             1.   I    69  I     80  I     149
SOCIAL STUDIES    I  46.3  I   53.7  I    45.4
                  I  55.6  I   39.2  I
                  I  21.0  I   24.4  I
                 -I--------I---------I
             2.   I    21  I     44  I      65
SCIENCE           I  32.3  I   67.7  I    19.8
                  I  16.9  I   21.6  I
                  I   6.4  I   13.4  I
                 -I--------I---------I
             3.   I    34  I     80  I     114
PSYCHOLOGY        I  29.8  I   70.2  I    34.8
                  I  27.4  I   39.2  I
                  I  10.4  I   24.4  I
                 -I--------I---------I
         COLUMN      124       204        328
          TOTAL     37.8      62.2      100.0
HI SQUARE =      8.50574 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0142
UMBER OF MISSING OBSERVATIONS =         3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * * * * *
   X109       AREA OF CERTIFICATION                               BY  X131        POSTERS OF FAMOUS PSYCHOLOGISTS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * PAGE  10

                  X131
          COUNT  I
        ROW PCT  INO        YES        ROW
        COL PCT  I                     TOTAL
        TOT PCT  I        0.I       1.I
X109     --------I--------I--------I
             1.  I   115  I    34  I    149
  SOCIAL STUDIES I  77.2  I  22.8  I   45.4
                 I  45.1  I  46.6  I
                 I  35.1  I  10.4  I
                -I--------I--------I
             2.  I    54  I    11  I     65
  SCIENCE        I  83.1  I  16.9  I   19.8
                 I  21.2  I  15.1  I
                 I  16.5  I   3.4  I
                -I--------I--------I
             3.  I    86  I    28  I    114
  PSYCHOLOGY     I  75.4  I  24.6  I   34.8
                 I  33.7  I  38.4  I
                 I  26.2  I   8.5  I
                -I--------I--------I
         COLUMN      255       73       328
          TOTAL     77.7     22.3     100.0

CHI SQUARE =      1.44589 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .4853

NUMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                    BY  X132        VALUES OF CLARIFICATION ACTIVITIES
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * PAGE  10

                      X132
           COUNT   I
         ROW PCT   INO          YES
         COL PCT   I                        ROW
         TOT PCT   I        0.I       1.I   TOTAL
X104       --------I--------I---------I
               1.  I   107  I     42  I     149
 SOCIAL STUDIES    I  71.8  I   28.2  I    45.4
                   I  49.5  I   37.5  I
                   I  32.6  I   12.8  I
                  -I--------I---------I
               2.  I    36  I     29  I      65
 SCIENCE           I  55.4  I   44.6  I    19.8
                   I  16.7  I   25.9  I
                   I  11.0  I    8.8  I
                  -I--------I---------I
               3.  I    73  I     41  I     114
 PSYCHOLOGY        I  64.0  I   36.0  I    34.8
                   I  33.8  I   36.6  I
                   I  22.3  I   12.5  I
                  -I--------I---------I
           COLUMN      216       112        328
           TOTAL      65.9      34.1      100.0
HI SQUARE =      5.68827 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0582
UMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                BY  X133         STUDENT WORKBOOKS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1

                     X133
          COUNT    I
          ROW PCT  INO          YES           ROW
          COL PCT  I                          TOTAL
          TOT PCT  I          0.I        1.I
X104      ---------I---------I---------I
               1.  I    94   I    55   I    149
  SOCIAL STUDIES   I  63.1   I  36.9   I   45.4
                   I  44.3   I  47.4   I
                   I  28.7   I  16.8   I
                  -I---------I---------I
               2.  I    43   I    22   I     65
  SCIENCE          I  66.2   I  33.8   I   19.8
                   I  20.3   I  19.0   I
                   I  13.1   I   6.7   I
                  -I---------I---------I
               3.  I    75   I    39   I    114
  PSYCHOLOGY       I  65.8   I  34.2   I   34.8
                   I  35.4   I  33.6   I
                   I  22.9   I  11.9   I
                  -I---------I---------I
          COLUMN       212       116        328
           TOTAL      64.6      35.4      100.0
CHI SQUARE =       .28822 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .8658

NUMBER OF MISSING OBSERVATIONS =        3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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 * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * *
  X104       AREA OF CERTIFICATION                                       BY  X134      MATERIALS FOR CLASSROOM EXPERIMENTS
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1 0

                       X134
               COUNT   I
             ROW PCT   INO          YES           ROW
             COL PCT   I                          TOTAL
             TOT PCT   I       0.I          1.I
104          ---------I---------I----------I
                  1.   I    55   I     94    I     149
 SOCIAL STUDIES        I  36.9   I   63.1    I    45.4
                       I  44.4   I   46.1    I
                       I  16.8   I   28.7    I
                      -I---------I----------I
                  2.   I    29   I     36    I      65
 SCIENCE               I  44.6   I   55.4    I    19.8
                       I  23.4   I   17.6    I
                       I   8.8   I   11.0    I
                      -I---------I----------I
                  3.   I    40   I     74    I     114
 PSYCHOLOGY            I  35.1   I   64.9    I    34.8
                       I  32.3   I   36.3    I
                       I  12.2   I   22.6    I
                      -I---------I----------I
              COLUMN       124        204          328
               TOTAL      37.8       62.2        100.0
HI SQUARE =      1.69063 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =  .4294
UMBER OF MISSING OBSERVATIONS =        3
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* * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * *
  104       AREA OF CERTIFICATION                                  BY  X135       ACURRICULUM GUIDE
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * PAGE  1 O

                   X135
          COUNT   I
         ROW PCT  INO          YES          ROW
         COL PCT  I                         TOTAL
         TOT PCT  I       0.I        1.I
104      ---------I--------I--------I
               1. I   123  I    26  I    149
 SOCIAL STUDIES   I   82.6 I  17.4  I   45.4
                  I   44.4 I  51.0  I
                  I   37.5 I   7.9  I
                 -I--------I--------I
               2. I    58  I     7  I     65
 SCIENCE          I   89.2 I  10.8  I   19.8
                  I   20.9 I  13.7  I
                  I   17.7 I   2.1  I
                 -I--------I--------I
               3. I    96  I    18  I    114
 PSYCHOLOGY       I   84.2 I  15.8  I   34.8
                  I   34.7 I  35.3  I
                  I   29.3 I   5.5  I
                 -I--------I--------I
         COLUMN  -    277       51       328
          TOTAL       84.5     15.5     100.0
HI SQUARE =      1.54584 WITH   2 DEGREES OF FREEDOM.  SIGNIFICANCE =   .4617
UMBER OF MISSING OBSERVATIONS =         3
             - - -   - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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* * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * *
  X109     AREA OF CERTIFICATION                                        BY  X136      SAMPLE PSYCHOLOGICAL TESTS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1

                         X136
             COUNT   I
           ROW PCT   INO         YES          ROW
           COL PCT   I                        TOTAL
           TOT PCT   I        0.I        1.I
109         ---------I--------I--------I
                 1.  I     68 I     81 I     149
 SOCIAL STUDIES      I   45.6 I   54.4 I    45.4
                     I   44.2 I   46.6 I
                     I   20.7 I   24.7 I
                    -I--------I--------I
                 2.  I     36 I     29 I      65
 SCIENCE             I   55.4 I   44.6 I    19.8
                     I   23.4 I   16.7 I
                     I   11.0 I    8.8 I
                    -I--------I--------I
                 3.  I     50 I     64 I     114
 PSYCHOLOGY          I   43.9 I   56.1 I    34.8
                     I   32.5 I   36.8 I
                     I   15.2 I   19.5 I
                    -I--------I--------I
            COLUMN        154      174       328
             TOTAL       47.0     53.0     100.0
HI SQUARE =      2.39677 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .3017
UMBER OF MISSING OBSERVATIONS =        3
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* * * * * *   * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * * * *
  X104        AREA OF CERTIFICATION                                   BY  X139       AWARE OF THE AMERICAN PSYCHOLOGICA
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  PAGE  1

                      X139
            COUNT   I
          ROW PCT   IYES        NO           ROW
          COL PCT   I                        TOTAL
          TOT PCT   I       1.I        2.I
X104      ----------I---------I----------I
               1.   I    48   I    94    I    142
  SOCIAL  STUDIES   I  33.8   I  66.2    I   45.5
                    I  48.5   I  44.1    I
                    I  15.4   I  30.1    I
                   -I---------I----------I
               2.   I    16   I    45    I     61
  SCIENCE           I  26.2   I  73.8    I   19.6
                    I  16.2   I  21.1    I
                    I   5.1   I  14.4    I
                   -I---------I----------I
               3.   I    35   I    74    I    109
  PSYCHOLOGY        I  32.1   I  67.9    I   34.9
                    I  35.4   I  34.7    I
                    I  11.2   I  23.7    I
                   -I---------I----------I
           COLUMN        99       213         312
            TOTAL      31.7      68.3       100.0

CHI SQUARE =      1.14089 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .5653

NUMBER OF MISSING OBSERVATIONS =       19
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* * * * * * * * * * * * * * * * * * * * *   C R O S S T A B U L A T I O N   O F   * * * * * * * * * * * * * * *
    X104      AREA OF CERTIFICATION                                  BY  X140      RECEIVE ACOPY OF THE AFA NEWSLETT
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * PAGE  1

                  X140
        COUNT   I
        ROW PCT IYES       NO        NO BUT L   ROW
        COL PCT I                    IKE TO R   TOTAL
        TOT PCT I        1.I       2.I       3.I
X104    --------I---------I---------I---------I
             1. I    37   I    15   I    91   I    143
  SOCIAL STUDIES I  25.9   I  10.5   I  63.6   I   45.3
                I  38.9   I  33.3   I  51.7   I
                I  11.7   I   4.7   I  28.8   I
               -I---------I---------I---------I
             2. I    20   I    13   I    29   I     62
  SCIENCE       I  32.3   I  21.0   I  46.8   I   19.6
                I  21.1   I  28.9   I  16.5   I
                I   6.3   I   4.1   I   9.2   I
               -I---------I---------I---------I
             3. I    38   I    17   I    56   I    111
  PSYCHOLOGY    I  34.2   I  15.3   I  50.5   I   35.1
                I  40.0   I  37.8   I  31.8   I
                I  12.0   I   5.4   I  17.7   I
               -I---------I---------I---------I
         COLUMN      95        45        176        316
         TOTAL     30.1      14.2       55.7      100.0
CHI SQUARE =      8.10221 WITH   4 DEGREES OF FREEDOM   SIGNIFICANCE =   .0879
NUMBER OF MISSING OBSERVATIONS =       15
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* * * * * * * * * * * * * * * * * * *  C R O S S T A B U L A T I O N   O F  * * * * * * * * * * * * * * * *
   X104      AREA OF CERTIFICATION                                   BY  X141       STATE'S COUNCIL MEMBER * * * * *  PAGE  1
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

                  X141
         COUNT   I
        ROW PCT  IYES       NO          ROW
        COL PCT  I                      TOTAL
        TOT PCT  I        1.I       2.I
X104    ---------I--------I--------I
             1.  I     35 I    106 I     141
  SOCIAL STUDIES I   24.8 I   75.2 I    45.6
                 I   77.8 I   40.2 I
                 I   11.3 I   34.3 I
                -I--------I--------I
             2.  I      0 I     61 I      61
  SCIENCE        I     .0 I  100.0 I    19.7
                 I     .0 I   23.1 I
                 I     .0 I   19.7 I
                -I--------I--------I
             3.  I     10 I     97 I     107
  PSYCHOLOGY     I    9.3 I   90.7 I    34.6
                 I   22.2 I   36.7 I
                 I    3.2 I   31.4 I
                -I--------I--------I
          COLUMN       45      264       309
           TOTAL     14.6     85.4     100.0
CHI SQUARE =    24.66693 WITH   2 DEGREES OF FREEDOM   SIGNIFICANCE =   .0000

NUMBER OF MISSING OBSERVATIONS =        22
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     VARIABLE  X23          NO. OF SECTIONS

                                             ANALYSIS OF VARIANCE

                SOURCE                  D.F.     SUM OF SQUARES      MEAN SQUARES          F RATIO    F PROB.

                BETWEEN GROUPS            2          37.3336            18.6668            11.894      .000

                WITHIN GROUPS           319         500.6540             1.5694

                TOTAL                   321         537.9876


                                                   STANDARD         STANDARD
GROUP          COUNT               MEAN        DEVIATION          ERROR           MINIMUM          MAXIMUM

GRP01           147              2.3129          1.2864           .1061           1.0000           6.0000
GRP02            64              1.4531           .7752           .0969           1.0000           4.0000
GRP03           111              2.2973          1.4180           .1346           1.0000           7.0000

TOTAL           322              2.1366          1.2946           .0721           1.0000           7.0000

           FIXED EFFECTS MODEL                   1.2528           .0698

          RANDOM EFFECTS MODEL                    .5119           .2955

TESTS FOR HOMOGENEITY OF VARIANCES

     COCHRANS C = MAX. VARIANCE/SUM(VARIANCES) =   .4713, P =  .000 (APPROX.)
     BARTLETT-BOX F =                             12.683, P =  .000
     MAXIMUM VARIANCE / MINIMUM VARIANCE =          3.346
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   VARIABLE  X26         NO. OF STUDENTS TOOK PSYCHOLOGY
                                               ANALYSIS OF VARIANCE

               SOURCE                 D.F.    SUM OF SQUARES     MEAN SQUARES          F RATIO    F PROB.

               BETWEEN GROUPS           2       157181.0000       78590.5000            8.100      .000

               WITHIN GROUPS          299      2901117.7500        9702.7349

               TOTAL                  301      3058298.7500



                                           STANDARD         STANDARD
GROUP         COUNT             MEAN       DEVIATION          ERROR           MINIMUM          MAXIMUM

GRP01          135          117.9481        102.3453         8.8085           10.0000         500.0000
GRP02           60           57.5833         64.4500         8.3205            8.0000         360.0000
GRP03          107          108.5519        108.6995        10.5084            6.0000         581.0000

TOTAL          302          102.6258        100.7991         5.8003            6.0000         581.0000

          FIXED EFFECTS MODEL                98.5025         5.6682

         RANDOM EFFECTS MODEL                33.9022        19.5734

TESTS FOR HOMOGENEITY OF VARIANCES

      COCHRANS C = MAX. VARIANCE/SUM(VARIANCES) =   .4468, P =  .004 (APPROX.)
      BARTLETT-BOX F =                              9.411, P =  .000
      MAXIMUM VARIANCE / MINIMUM VARIANCE =         2.845
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  VARIABLE   X27          NO. OF STUDENTS CURRENTLY ENROLLED
                                                   ANALYSIS OF VARIANCE

               SOURCE                    D.F.      SUM OF SQUARES      MEAN SQUARES           F RATIO     F PROB.

               BETWEEN GROUPS              2        166326.1250         83163.0625             7.936       .001

               WITHIN GROUPS             322       3374507.1875         10479.8359

               TOTAL                     324       3540833.3125



                                                STANDARD           STANDARD
ROUP           COUNT            MEAN          DEVIATION             ERROR            MINIMUM          MAXIMUM

RP01             147        111.3673           103.0341            8.4981             6.0000         600.0000
RP02              65         54.2769            54.8633            6.8050             4.0000         240.0000
RP03             113        110.0973           120.7095           11.3554             3.0000         622.0000

OTAL             325         99.5077           104.5395            5.7988             3.0000         622.0000

           FIXED EFFECTS MODEL                 102.3711            5.6785
          RANDOM EFFECTS MODEL                  33.9014           19.5730

ESTS FOR HOMOGENEITY OF VARIANCES

     COCHRANS C = MAX. VARIANCE/SUM(VARIANCES) =   .5168, P =   .000 (APPROX.)
     BARTLETT-BOX F =                             20.430, P =   .000
     MAXIMUM VARIANCE / MINIMUM VARIANCE =         4.841

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     VARIABLE  X105       HOURS OF COLLEGE COURSE CREDIT
                                                  ANALYSIS OF VARIANCE

               SOURCE                  D.F.     SUM OF SQUARES      MEAN SQUARES            F RATIO     F PROB.

               BETWEEN GROUPS            2         5048.7383          2524.3691              9.871        .000

               WITHIN GROUPS           316        80809.0195           255.7247

               TOTAL                   318        85857.7578


                                                STANDARD          STANDARD
GROUP          COUNT           MEAN            DEVIATION            ERROR           MINIMUM          MAXIMUM

GRP01           144          24.8194            14.8483            1.2374            .0000          95.0000
GRP02            63          32.6349            15.8718            1.9997           8.0000          98.0000
GRP03           112          32.9107            17.4147            1.6455            .0000          99.0000

TOTAL           319          29.2038            16.4315             .9200            .0000          99.0000

           FIXED EFFECTS MODEL                  15.9914             .8953

          RANDOM EFFECTS MODEL                   4.7295            2.7306

TESTS FOR HOMOGENEITY OF VARIANCES

     COCHRANS C = MAX. VARIANCE/SUM(VARIANCES) =   .3910, P =  .130 (APPROX.)
     BARTLETT-BOX F =                              1.600, P =  .200
     MAXIMUM VARIANCE / MINIMUM VARIANCE =         1.376

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VARIABLE  XIII        TEXT AND LECTURE
                                              ANALYSIS OF VARIANCE

                SOURCE                 D.F.     SUM OF SQUARES      MEAN SQUARES            F RATIO    F PROB.
                BETWEEN GROUPS           2            2.6344              1.3172              1.384      .251
                WITHIN GROUPS          295          280.8019               .9519
                TOTAL                  297          283.4363


                                              STANDARD          STANDARD
GROUP           COUNT             MEAN       DEVIATION           ERROR           MINIMUM          MAXIMUM

GRP01            136             3.7721        1.0035             .0860           1.0000           5.0000
GRP02             55             3.5273         .8997             .1213           2.0000           5.0000
GRP03            107             3.7664         .9769             .0944           1.0000           5.0000

TOTAL            298             3.7248         .9769             .0566           1.0000           5.0000

            FIXED EFFECTS MODEL                 .9756             .0565

           RANDOM EFFECTS MODEL                 .1466             .0846

TESTS FOR HOMOGENEITY OF VARIANCES

       COCHRANS C = MAX. VARIANCE/SUM(VARIANCES) =  .3634, P =  .435 (APPROX.)
       BARTLETT-BOX F =                               .443, P =  .648
       MAXIMUM VARIANCE / MINIMUM VARIANCE =         1.244
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     VARIABLE  X112       LECTURE
                                                     ANALYSIS OF VARIANCE

               SOURCE                  D.F.     SUM OF SQUARES      MEAN SQUARES          F RATIO    F PROB.

               BETWEEN GROUPS            2             .1846             .0923             .103       .897

               WITHIN GROUPS           285          256.5342             .9001

               TOTAL                   287          256.7188


                                           STANDARD        STANDARD
GROUP        COUNT            MEAN        DEVIATION          ERROR           MINIMUM          MAXIMUM

GRP01          135          3.7037           .9469           .0815            2.0000           5.0000
GRP02           57          3.7368           .8562           .1134            1.0000           5.0000
GRP03           96          3.6667          1.0018           .1022            1.0000           5.0000

TOTAL          288          3.6979           .9458           .0557            1.0000           5.0000

          FIXED EFFECTS MODEL                .9487           .0559

         RANDOM EFFECTS MODEL                .0355           .0205

TESTS FOR HOMOGENEITY OF VARIANCES

     COCHRANS C = MAX. VARIANCE/SUM(VARIANCES) =  .3811, P =  .229 (APPROX.)
     BARTLETT-BOX F =                              .839, P =  .435
     MAXIMUM VARIANCE / MINIMUM VARIANCE =        1.369

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     VARIABLE  A113       TEACHER DEMONSTRATIONS
                                                     ANALYSIS OF VARIANCE

                SOURCE                D.F.     SUM OF SQUARES      MEAN SQUARES            F RATIO    F PROB.

                BETWEEN GROUPS          2              .6706              .3353              .493       .617

                WITHIN GROUPS         281           191.1991              .6804

                TOTAL                 283           191.8698



                                             STANDARD          STANDARD
GROUP        COUNT            MEAN          DEVIATION           ERROR           MINIMUM          MAXIMUM

GRP01         132            3.1591           .8365            .0728           1.0000           5.0000
GRP02          52            3.2500           .7106            .0985           2.0000           5.0000
GRP03         100            3.1100           .8633            .0863           1.0000           5.0000

TOTAL         284            3.1585           .8234            .0489           1.0000           5.0000

            FIXED EFFECTS MODEL               .8249            .0489

           RANDOM EFFECTS MODEL               .0732            .0423

TESTS FOR HOMOGENEITY OF VARIANCES

      COCHRANS C = MAX. VARIANCE/SUM(VARIANCES) =  .3822, P =  .221 (APPROX.)
      BARTLETT-BOX F =                             1.261, P =  .283
      MAXIMUM VARIANCE / MINIMUM VARIANCE =        1.476
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    VARIABLE  X114        DISCUSSION

                                          ANALYSIS OF VARIANCE

          SOURCE                 D.F.     SUM OF SQUARES      MEAN SQUARES          F RATIO    F PROB.

          BETWEEN GROUPS           2               .7555             .3777            .695       .504

          WITHIN GROUPS          308            167.3539             .5434

          TOTAL                  310            168.1094



                                          STANDARD          STANDARD
ROUP          COUNT           MEAN       DEVIATION            ERROR          MINIMUM          MAXIMUM

RP01            143         4.1678           .7119            .0595           2.0000           5.0000
RP02             59         4.0339           .7871            .1025           2.0000           5.0000
RP03            107         4.1193           .7419            .0711           2.0000           5.0000

OTAL            311         4.1254           .7364            .0418           2.0000           5.0000

          FIXED EFFECTS MODEL               .7371            .0418

         RANDOM EFFECTS MODEL               .0715            .0413

ESTS FOR HOMOGENEITY OF VARIANCES

    COCHRANS C = MAX. VARIANCE/SUM(VARIANCES) =   .3695, P =  .340 (APPROX.)
    BARTLETT-BOX F =                               .431, P =  .656
    MAXIMUM VARIANCE / MINIMUM VARIANCE =         1.222

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   VARIABLE  X115      STUDENT LAB EXPERIMENTS
                                                ANALYSIS OF VARIANCE

                SOURCE               D.F.     SUM OF SQUARES       MEAN SQUARES             F RATIO     F PROB.
                BETWEEN GROUPS         2             1.4874              .7437                 .749        .478
                WITHIN GROUPS        278           276.0287              .9929
                TOTAL                280           277.5161


                                          STANDARD          STANDARD
GROUP         COUNT             MEAN      DEVIATION           ERROR          MINIMUM          MAXIMUM
GRP01           132           2.5909          .9881           .0860           1.0000           5.0000
GRP02            52           2.6346          .9081           .1259           1.0000           4.0000
GRP03            97           2.7526         1.0511           .1067           1.0000           5.0000

TOTAL           281           2.6548          .9956           .0594           1.0000           5.0000

          FIXED EFFECTS MODEL                 .9964           .0594

         RANDOM EFFECTS MODEL                 .0838           .0484

TESTS FOR HOMOGENEITY OF VARIANCES

      COCHRANS C = MAX. VARIANCE/SUM(VARIANCES) =  .3802, P =  .243 (APPROX.)
      BARTLETT-BOX F =                              .702, P =  .500
      MAXIMUM VARIANCE / MINIMUM VARIANCE =        1.340
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     VARIABLE  X116       SMALL GROUP DISCUSSIONS
                                                  ANALYSIS OF VARIANCE

               SOURCE                 D.F.     SUM OF SQUARES      MEAN SQUARES              F RATIO     F PROB.

               BETWEEN GROUPS           2              .8448              .4224                .482        .624

               WITHIN GROUPS          297           260.1519              .8759

               TOTAL                  299           260.9967



                                            STANDARD          STANDARD
GROUP          COUNT            MEAN       DEVIATION            ERROR          MINIMUM           MAXIMUM

GRP01            141          2.9645           .9213            .0776           1.0000            5.0000
GRP02             57          3.1053           .9762            .1293           1.0000            5.0000
GRP03            102          2.9804           .9332            .0924           1.0000            5.0000

TOTAL            300          2.9967           .9343            .0539           1.0000            5.0000

            FIXED EFFECTS MODEL               .9359            .0540

           RANDOM EFFECTS MODEL               .0809            .0467

TESTS FOR HOMOGENEITY OF VARIANCES

     COCHRANS C = MAX. VARIANCE/SUM(VARIANCES) =  .3566, P =  .540 (APPROX.)
     BARTLETT-BOX F =                              .137, P =  .869
     MAXIMUM VARIANCE / MINIMUM VARIANCE =        1.123
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     VARIABLE  X117        GUEST SPEAKERS
                                            ANALYSIS OF VARIANCE

              SOURCE               D.F.    SUM OF SQUARES     MEAN SQUARES          F RATIO    F PROB.

              BETWEEN GROUPS         2              .4854            .2427             .348       .712

              WITHIN GROUPS        281           196.1343            .6980

              TOTAL                283           196.6197



                                          STANDARD         STANDARD
GROUP          COUNT           MEAN      DEVIATION           ERROR          MINIMUM         MAXIMUM

GRP01           132          2.3712         .8326            .0725          1.0000          5.0000
GRP02            55          2.4000         .8735            .1178          1.0000          5.0000
GRP03            97          2.4639         .8173            .0830          1.0000          4.0000

TOTAL           284          2.4085         .8335            .0495          1.0000          5.0000

          FIXED EFFECTS MODEL               .8355            .0496

         RANDOM EFFECTS MODEL               .0476            .0275

TESTS FOR HOMOGENEITY OF VARIANCES

     COCHRANS C = MAX. VARIANCE/SUM(VARIANCES) =  .3592, P =  .508 (APPROX.)
     BARTLETT-BOX F =                              .157, P =  .853
     MAXIMUM VARIANCE / MINIMUM VARIANCE =        1.142
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     VARIABLE  X118        VALUES CLARIFICATION ACTIVITIES
                                                ANALYSIS OF VARIANCE

             SOURCE                D.F.     SUM OF SQUARES       MEAN SQUARES            F RATIO    F PROB.
             BETWEEN GROUPS          2            2.3327              1.1664             1.104      .334
             WITHIN GROUPS         274          289.4940              1.0565
             TOTAL                 276          291.8268


                                            STANDARD          STANDARD
GROUP         COUNT            MEAN        DEVIATION            ERROR          MINIMUM          MAXIMUM

GRP01          129           2.8062         1.0238              .0901          1.0000           5.0000
GRP02           51           3.0588          .9677              .1355          1.0000           5.0000
GRP03           97           2.8763         1.0632              .1080          1.0000           5.0000

TOTAL          277           2.8773         1.0283              .0618          1.0000           5.0000

         FIXED EFFECTS MODEL                1.0279              .0618

        RANDOM EFFECTS MODEL                 .1379              .0796

TESTS FOR HOMOGENEITY OF VARIANCES

     COCHRANS C = MAX. VARIANCE/SUM(VARIANCES) =  .3629, P =  .458 (APPROX.)
     BARTLETT-BOX F =                              .287, P =  .754
     MAXIMUM VARIANCE / MINIMUM VARIANCE =        1.207

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